Digital Encoder Plus

Digital Audio Processor

User Manual

Rev.004

Sound Processing Corporation

Important Warning :

- Never open the equipment unless authorised to do so by a member of the IDT Sound Processing Corporation technical team and please follow the instructions to the letter.

Location of the equipment :

- The equipment must be located in a dry and well ventilated area.
- The equipment should not be subjected to ambient temperatures over 45°C and should be as far as possible from heat sources like transmitters or radiators.
- The ventilation outlets of the Equipment must, in no case be obstructed.
- Every precaution must be taken to make sure that no liquid should enter the equipment. Should this happen unplug the equipment immediately.

Power Supply :

- The fuses in the power supply are, standard, 2AT 250V. In case of use on a 115 Vac network they must be changed for fuses high power of cut (ceramic body) for 4AT 250V.
- The equipment needs an AC power supply of 115Vca or 230Vca 50/60Hz and must be properly earthed. There is an earth screw on the equipment for that purpose. Should the equipment not be in use for a certain period it should be unplugged.
- The cables linked to the equipment must not be twisted, pinched, crushed or changed in any way. All standards stipulated must be respected (maximum length, shielded etc.). Please replace, immediately any cable that is damaged.

Never try auto-maintenance or repairs on any machine without the written authorisation of IDT Sound Processing Corporation or a maintenance expert mandated by the company (a list can be supplied by IDT Sound Processing Corporation).

Should these conditions not be respected IDT Sound Processing Corporation shall suspend all guarantees. Any damage which results can only be repaired by IDT Sound Processing Corporation and any repairs will be invoiced.

SOMETHING TO READ BEFORE SETTING UP !

The aim of this manual is for you to be able to install and start up your processor as efficiently and quickly as possible. Most of the options and functions are described. Should anything be missing call the company. Most of the options and functions are described. By a careful reading of this manual, in particular the part dedicated to installation, will assure a perfect set up of your machine.

Test or loan period of the equipment:

IDT Sound Processing Corporation has loaned you a processor. This loan is not invoiced but care must, naturally, be taken to make sure that it is returned to IDT Sound Processing Corporation in exactly the same condition it was delivered to you.

- The original packaging must be used, including the plastic protector bag. IDT Sound Processing Corporation could be invoiced.
- Avoid damaging any part of the equipment (paint, aluminium etc), clean with non-corrosive products. Protect the equipment from other elements by, for example, placing polystyrene pads between different boxes.
- The processor will have been delivered with an install CD, this manual, the packaging case, an RS232 cable and a mains cable. Should any of these be missing IDT Sound Processing Corporation could invoice the part that is not returned.

Packaging and return of the equipment.

- We prefer you use the original packaging which has been fully tested to endure extreme conditions. IDT Sound Processing Corporation only sends equipment after repairs or upgrades in this packaging. Should you return the equipment in a different packaging IDT Sound Processing Corporation reserves the right to invoice you.
- If you are only returning a machine for repair or upgrade do not send any of the cables, nor CD nor manual. However, it is essential that you enclose as much information as possible concerning the technical problem.
- Should you decide to return the equipment definitively you must contact the sales department of IDT Sound Processing Corporation to obtain the partial or total refund of the equipment and enclose all parts pertaining to the equipment (cables, CD, manual) along with an explicatory note for the sales department.

Maintenance of your Processor.

- Use a cloth that is dry or slightly moist to clean all metallic parts.

- You can use a special glass cleaning product on the plastic protector of the display.

- To remove the dust from the ventilation system switch off and unplug the processor then use a compressor to blow through the ventilation ducts at no less than 15cm paying particular attention to the duct where the ventilator is placed (to the left of the processor on 2U racks like the DVP and DBP7+4, and to the right on IU racks like a DEP, DEP2 or 4 and VVP).

- Wherever possible protect the equipment from dust or other dangerous projectiles.

- Should your processor have been exposed to fluids, smoke or dust it must be thoroughly cleaned. However, your processor should not be opened unless you have the authorization from a technician from IDT Sound Processing Corporation without which your guarantee can be cancelled. Call IDT Sound Processing Corporation in any such case. Depending on the damage we can help you clean the processor or have the equipment returned to the company for a full revision.

Storing your equipment for a long period without use

When you don't use your processor for a long period please store it in its original packaging in a temperate and dry area. We advise you to use the plastic protective bag to avoid any possible corrosion. We advise you to repack the processor exactly as you received it ensuring that you will find it in perfect working condition.

CE declaration of Conformity

EU Declaration EN 61000-6-2 and EN 61000-6-3

Manufacturer	IDT Sound Processing Corporation 5, allée Moulin Berger – 69130 Ecully - France			
Product application	Sound Processor			
Product Name	Digital Encoder Plus (DEP)			
European Telecom Standard	ETS 300 384 ETS 300 384 A1			
Safety	EN 60950			
Basic standards	EN 61000 6-2	EN 61000 6-3		
Registered standards	EN 55103-1	EN 55103-2	EN 55022	
	IEC 61000-3-2	IEC 61000-3-3	IEC 61000-4-2	IEC 61000-4-4
	IEC 61000-4-5	IEC 61000-4-6	IEC 61000-4-11	

CE

We, IDT Sound Processing Corporation, declare that products referenced this above, to which refers this declaration relate, satisfy the provisions of Directive(s) of the council,

n° 73/23/EEC of February 19th, 1973
modified by the Directive n° 93/68/EEC of July 22nd, 1993

n° 89/336/EEC of May 3rd 1989
modified by the Directives n° 92/31/EEC of April 28th, 1992
and n° 93/68/EEC of July 22nd, 1993

and are in conformity with the standard(s) referenced this above or other nominative document(s).

Sylviane TESSIER
President

Jean-Marc HERBAUT
Engineering manager

Ecully, on December 15th, 2005

IDT Sound Processing Corporation - Technoparc - 5 Allée Moulin Berger - 69130 Ecully – France
Tel. +33/(0) 472 18 19 20 – Fax. +33/(0) 472 18 19 21 – E-mail : mail@idt-fr.com - Web : www.idt-fr.com
SAS au capital de 37 000 € - RCS LYON 450 741 921 – N° TVA : FR 88 450 741 921 – APE : 221G

Digital Encoder Plus

Audio Processor

User Manual

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Abbreviations

Some of the abbreviations used in this manual may not be familiar to all readers:

A/D	Analogue to Digital converter
AES	Audio Engineering Society
AF	Alternatives Frequencies
AGC	Automatic Gain Control
BNC	Type of RF connector
CD	Compact Disc
CE	European certification
CEM	Electro Magnetic Compatibility
COM	Serial data communication port
CT	Clock Time
D/A	Digital to analogue converter
DB9	Type of connector SUB-D in 9 points
dBfs	Decibel Full scale = level concerning the maximum level (digital stream only)
dBm	Level allowing to deliver 1mW / 600ohm
dBr	Level concerning a reference
DBT	Directive Low Voltage
dBu	Decibel (unloaded) = dBm in an impedance of some load
DHCP	Dynamic Host Control Protocol
DI	Decoder Information
DSP	Digital Signal Processor
E/S	Entrée/Sortie
EBU	European Broadcasting Union
EMI	electromagnetic interference
FFT	Fast Fourier Transform
FM	Frequency modulation
GPI/O	General purpose input/output
Hz	Hertz
I/O	Input/Output
IEC	International Electric Standard
IP	Internet Protocol
ITU	International Telecommunications Union
ITU-R	Sector of the ITU dedicated to the Radio
kHz	Unit of measure expressed in kilo Hertz
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
MAC	Address of the network card
MPX	Composite
MS	Music/Speech
PC	Personal Computer
PI	Program Identification
PPM	Pulsation per minute
PS	Program Service name
PTY	Program Type
RAM	Random Access Memory
RBDS	Radio Broadcasting Data Service
RDS	Radio Data System
RF	Radio Frequency

ROM	Read Only Memory
RT	Radio Text
RTC	Real Time Clock
RX	Receiver
SUB-D	Type of connector multipoint
TA	Traffic Announcement
TCP/IP	Communication Protocol
THD	Total Harmonic Distortion
TP	Traffic Program
TX	Transmitter
UECP	Universal Encoder Communication Protocol
V	Volt
Vcc	Volt Crete Crete
Vpp	Volt peak to peak
Vrms	Effective volt
XLR	Style of 3-conductor audio connector

I - INTRODUCTION

After years of success on the digital sound market with the DVP IDT decided to go further by proposing fully equipped, highly efficient processors taking up a minimum of space at the best price possible.

The 1U range from IDT has been designed to meet the needs of broadcasters by proposing powerful processors using Sharc DSPs ® from Analog Devices ®, a technology which gained the « Cool Stuff Award » award for IDT at the NAB, Las Vegas in 2000.
This range proposes IU rack processors, thus using a minimum amount of space but with the power of a rack 3, 4 U or even more!
Thanks to the up-gradable nature of the processors, both hard and software wise, they are without doubt the most complete and cost-effective solution on the broadcast market today.

The Digital Encoder Plus @ FM is full digital.

This manual will guide you through the set up of the DEP that you have just received.

- **WEEE**

1. This symbol indicating separate collection for electrical and electronic equipment consists of the crossed-out wheeled bin, mean that the product is covered by the directive 2002/96/EC.
2. The electric and electronic elements must be separately cast in containers foreseen for that purpose by your municipality.
3. The preserve, protect, improve the quality of the environment and the protect of human health.
4. For more information concerning the elimination of your former device, please contact your city hall, the service of the waste of your municipality or still the salesman or the distributor where you bought this product.

II - INSTALLATION

Dedicate one hour to the installation.

WARNING: IDT declines all liability should the rules of installation below not be respected.

■ Physical Installation

As you will have noticed all IDT products are of a 19 inch format so that it fits into dedicated racks. The following indications must be respected.

We advise using a rack-mount; however, the front panel was designed to be sturdy enough to be self-supporting with the four screws firmly implanted.

The ventilation of your processor: the ventilation has been studied to make sure that all heat generated is evacuated. Air is sucked in by two ventilators, placed on the right and is expired at the rear and to the left of the unit.
These ducts should absolutely not be obstructed. Make sure that your processor is placed where hot air can be evacuated. The ideal location is in an open rack, dry area where, ideally, it is not exposed to high temperatures (behind a window with bright sunshine, a radiator, amplifier etc).

IDT processors have been tested to work in environments where the temperatures go from 0°C to 45°C. IDT Sound Processing Corporation cannot guarantee that its processors work perfectly outside these temperatures.

■ Electrical Installation

Good grounding: IDT processors are CEM certified guaranteeing that the equipment can function in an electro-static environment. The key is to make sure that the equipment is properly grounded as results please fix all 4 screws of the front panel to the rack to allow. All IDT processors also have a ground connector at the rear of the unit which allows a connection to the rack.

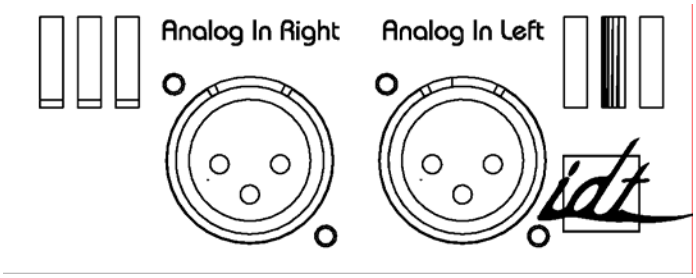
NB: don't forget to connect the ground link of the rear panel to the rack!

The right fuses: The fuses in the power supply are fuses with high power of cut (ceramic body), 2AT 250V. In case of use on a 115 Vac. Network they should ideally be changed for fuses with high power of cut (ceramic body) 4AT 250V.
The equipment needs an AC power supply of 115Vac or 230Vac 50/60Hz and must be properly earthed. There is an earth screw on the equipment for that purpose. Should the equipment not be in use for a certain period it should be unplugged.

The right Cable: IDT are supplied with standard IEC AC cables. The cables are French standard. This cable should be changed to respect the electrical standards of your country. IDT Sound Processing Corporation cannot guarantee any breakdowns should a non-standard cable be used.

II-1 - Connections

XLR audio in / Out



The I/Os of the **DEP** are linked by" **XLR 3 Pin**" connectors

The wiring is the following:
Pin number 1 = **Ground**
Pin number 2 = **Hot Point**
Pin number 3 = **Cold Point**

- **XLR Input**

  As with any professional audio unit the inputs are female so you need to use a male XLR to bring the audio into the **DEP**.

  The **DEP** has a balanced electronic input.
  IMPORTANT: the input can receive balanced and imbalanced signals

- **XLR Output**

  The audio output connectors are male so you need female XLRs to take the signal out of the **DEP**.

  As for the input the **DEP** has a balanced electronic output.
  IMPORTANT: the output is protected against unbalancing (cold point to ground), so if needs be you can use this type of link.

- **Specifications:**

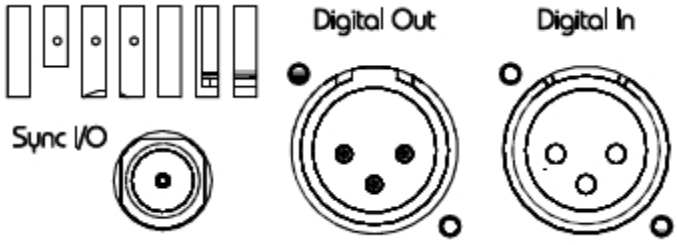
Input:

Type	Electronically balanced
Cabling	Ground=1, Hot point=2, Cold point=3
Impedance	10 K
Maximum level	+ 24 dB

Output:

Type	Electronically balanced
Cabling	Ground=1, Hot point=2, Cold point=3
Impedance	600 Ohms
Maximum level	+ 24 dB

XLR AES / EBU In / Out



- **XLR Input**

  As with any professional audio unit the inputs are female so you need to use a male XLR to bring the digital audio into the **DEP**.

- **XLR Output**

  The audio output connectors are male so you need female XLRs to take the signal out of the **DEP**.

The DEP has an advanced synch mode. To ensure a perfect synchronisation, whatever the digital chain, you can configure your DEP in the following ways;

- Synch **Master**
- Synch **Slave**

In the first case the DEP will act as transmitter and will deliver the synch frequency to the other units in the digital chain.

In the second case the DEP will act as a receiver and will be controlled by an external clock.

- **BNC Synchro I/O**

  The DEP has a female input socket so you will need a male BNC to link up to the synch.

- **Specifications**

  Input:

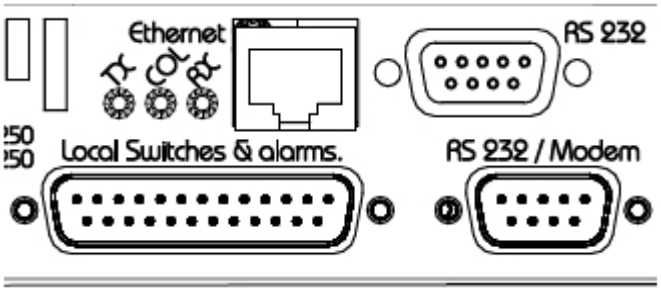
Type	Balanced on transformer
AES type	AES 3 Professional
Cabling	Ground=1, Hot point=2, Cold point=3
Impedance	110 Ohms
Maximum Level	0 dBfs

  Output:

Type	Balanced on transformer
AES type	AES 3 Professional
Cabling	Ground=1, Hot point=2, Cold point=3
Impedance	110 Ohms
Maximum Level	0 dBfs

RS 232 - RS 232 Modem

The DEP has 2 types of RS 232 standard serial inputs:



The possibility of leaving a modem connected permanently:

As you can see one of the serial ports is called "RS 232 / Modem". This port allows the use of a modem to facilitate its set up. This port is optimized for use with a modem but can still be used for normal communication use.

- **Specifications**

Port: RS 232

Connector type	Male
Cabling	2=RX 3=TX 5=Ground
Max Length	10 metres

Port: RS 232 / Modem

Connector type	Female
Cabling	1=DCD 2=TX 3=RX 4=DTR 5=Ground 7=RTS 9=RING
Max Length.	10 metres

Port Ethernet

The DEP has an RJ45 Ethernet port available for an IP link (internet Protocol). LEDs can be viewed next to the connector to show the state of the network.

Connector type	RJ45
Cabling	10 Base T
Leds	TX=data out RX=data in Col=Collision
Max Length.	100 metres

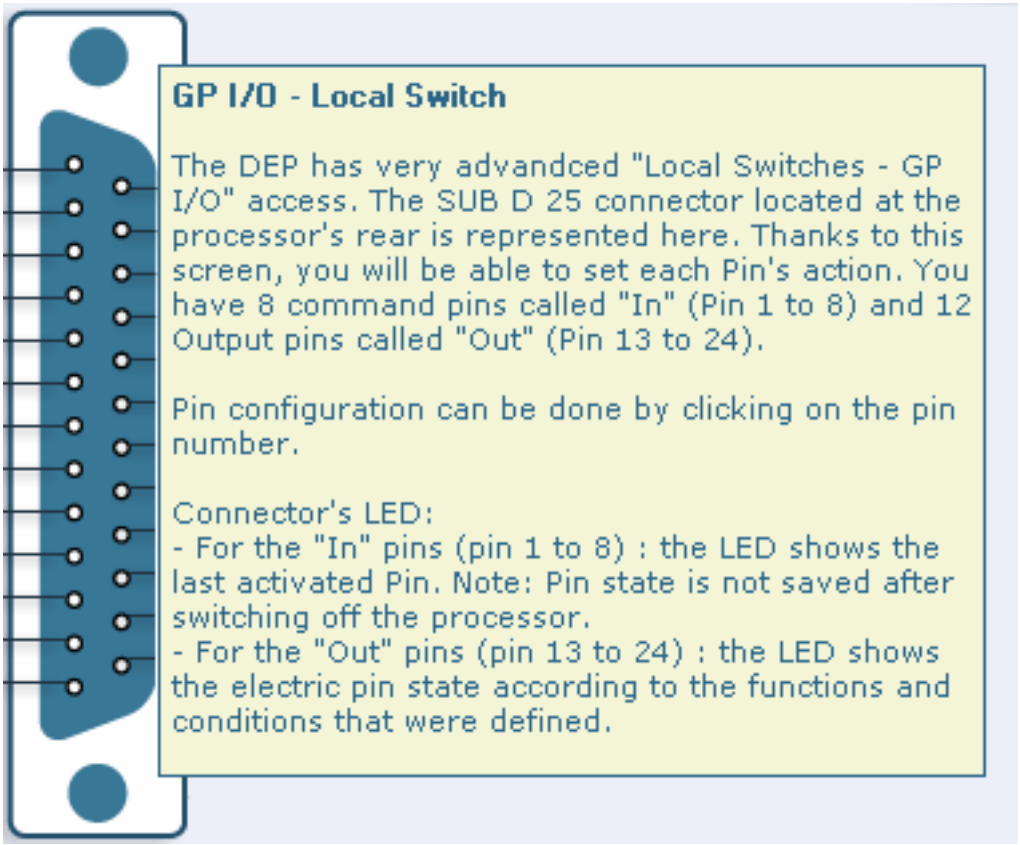
Local Switches/GPIO

The "Local Switches & Alarms" is aimed at switching presets by local switch and the feeding of the LEDs. On the DEP the connector is a SUB D 25 points.

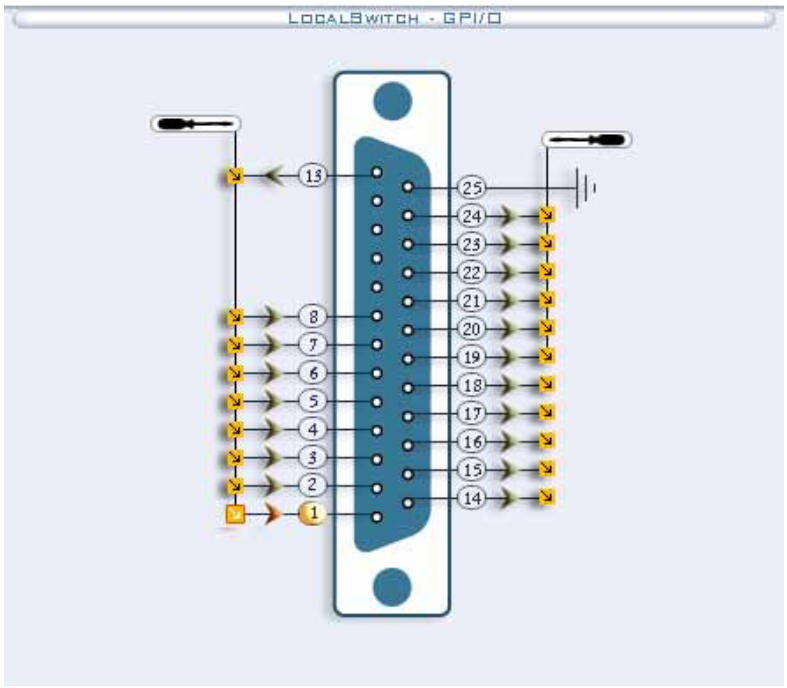
The DEP allows the switching between presets. This is done by the grounding of one of the 8 pins of the connector. The switching can be done by a continuous contact or by a fugitive contact.

The DEP can also set off alarms (which can be parameterised by the Master Gate) on the 24 pins.

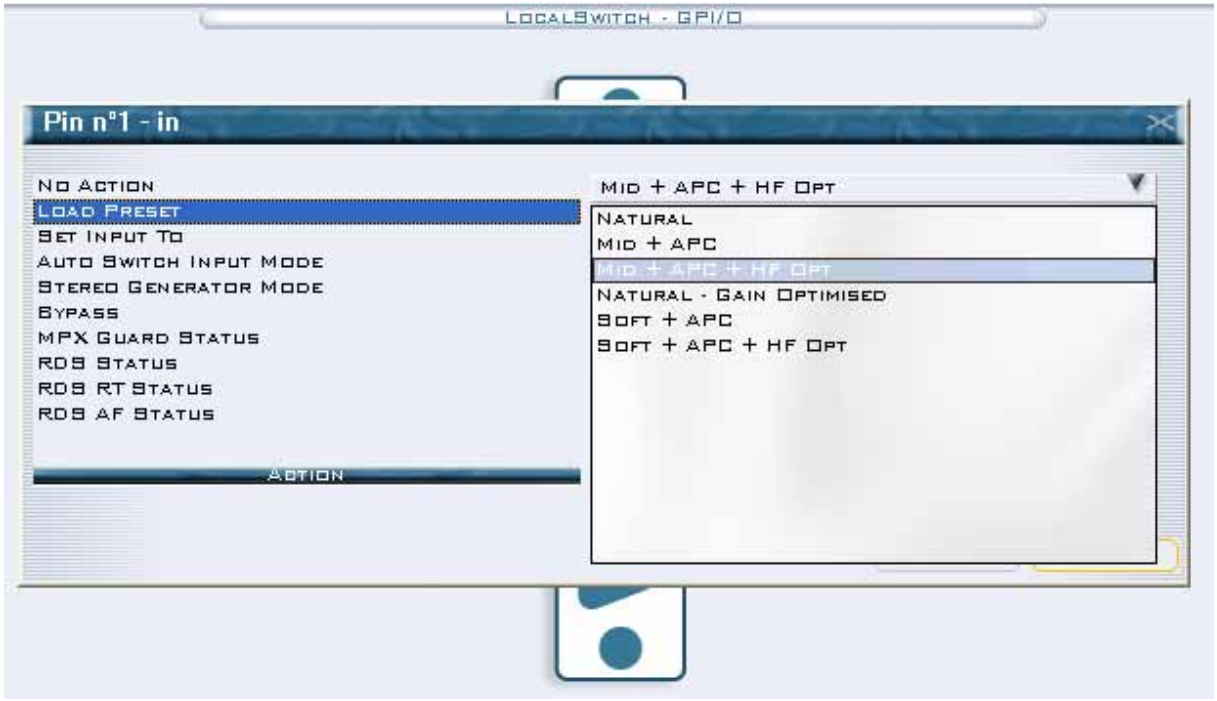
Access the « Local Switch » window in the Master Gate, go to the « SETUP » menu then select « LOCALSWITCH – GPI/O ».


GP I/O - Local Switch
The DEP has very advandced "Local Switches - GP I/O" access. The SUB D 25 connector located at the processor's rear is represented here. Thanks to this screen, you will be able to set each Pin's action. You have 8 command pins called "In" (Pin 1 to 8) and 12 Output pins called "Out" (Pin 13 to 24).
Pin configuration can be done by clicking on the pin number.
Connector's LED:
- For the "In" pins (pin 1 to 8) : the LED shows the last activated Pin. Note: Pin state is not saved after switching off the processor.
- For the "Out" pins (pin 13 to 24) : the LED shows the electric pin state according to the functions and conditions that were defined.

When you have placed your cursor on one of the pins of the connector it will change colour to show which pin has been selected. .

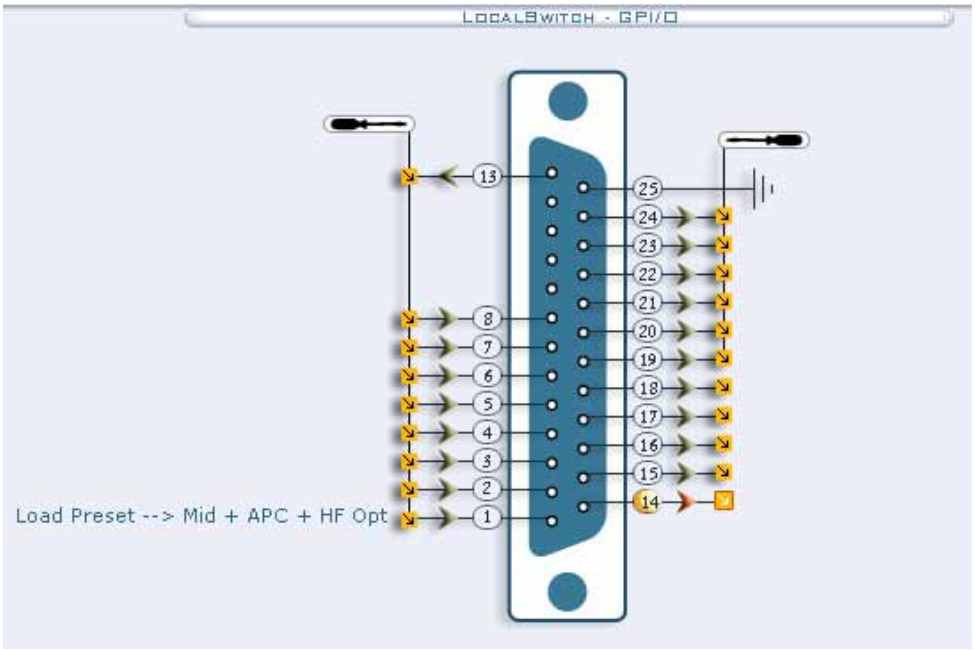


When you click it you will access the various programmable functions of the connector. In the example below we will set pin 1 of the connector to switch a preset.



Window of the programmable commands.

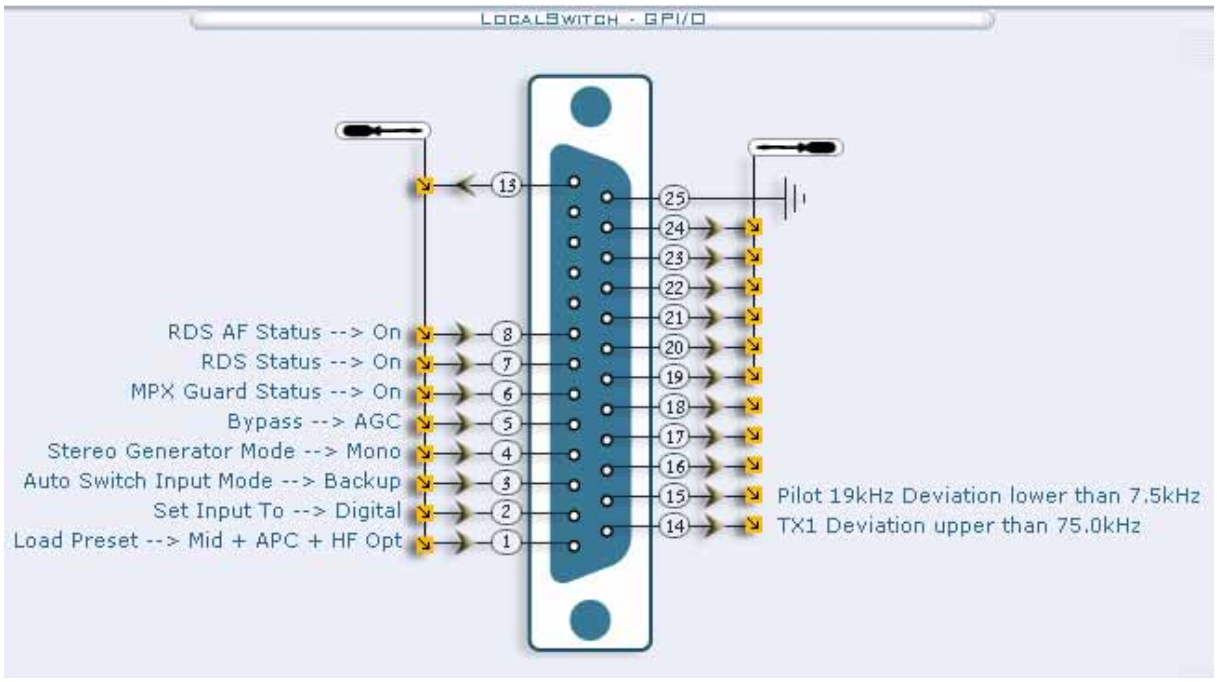
The next window shows that pin n°1 of the connector is programmed to switch to the preset Mid + APC + HF Opt.



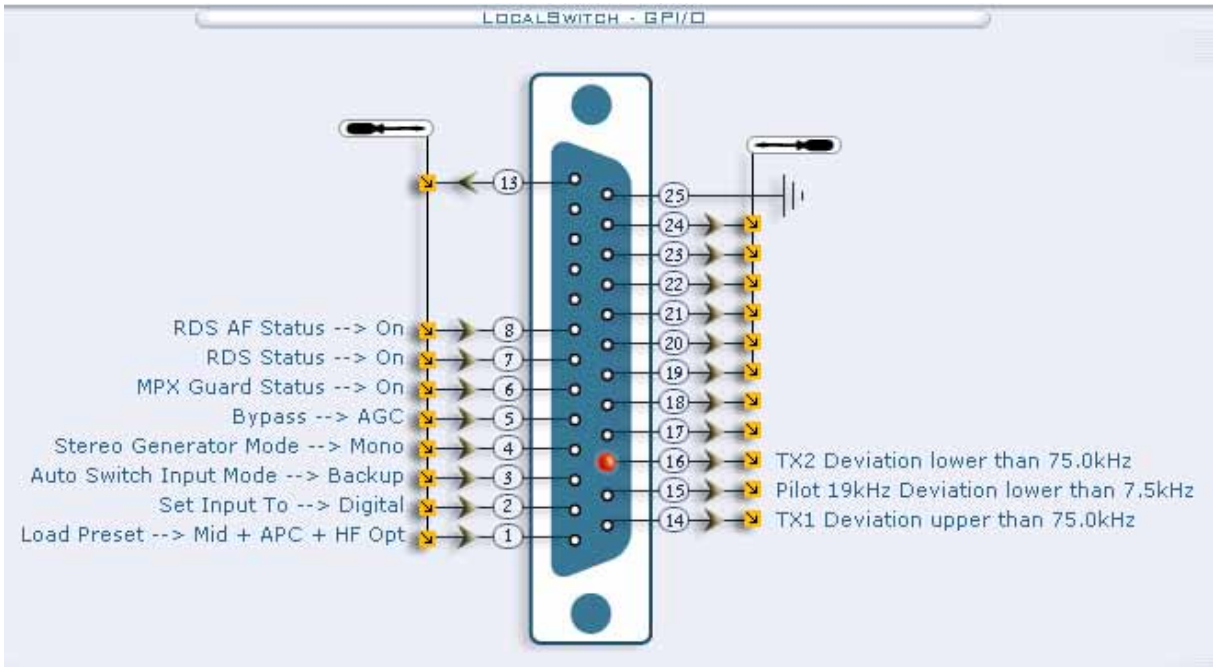
In the same way you can programme outgoing information or alarms.

In the example below we have programmed the pin n° 14 of the connector an alarm will be set off if the TX1 Level goes over 75 kHz.

The window below indicates the programmation of the pin n° 14 that we have just done as well as other programmations.


LocalSwitch - GPI/O
RDS AF Status --> On
RDS Status --> On
MPX Guard Status --> On
Bypass --> AGC
Stereo Generator Mode --> Mono
Auto Switch Input Mode --> Backup
Set Input To --> Digital
Load Preset --> Mid + APC + HF Opt
Pilot 19kHz Deviation lower than 7.5kHz
TX1 Deviation upper than 75.0kHz

When a command is effective or an alarm has been set off this will be indicated by a red LED on the connector.


LocalSwitch - GPI/O
RDS AF Status --> On
RDS Status --> On
MPX Guard Status --> On
Bypass --> AGC
Stereo Generator Mode --> Mono
Auto Switch Input Mode --> Backup
Set Input To --> Digital
Load Preset --> Mid + APC + HF Opt
TX2 Deviation lower than 75.0kHz
Pilot 19kHz Deviation lower than 7.5kHz
TX1 Deviation upper than 75.0kHz

In the example above an alarm shows that the modulation of the TX2 is under that fixed by the TX2 programmation.

Below the list of actions available for the Local Switches of the unit.

Action

With this list you can define the action type.

"In" pins (pin 1 to 8)

- No Action :
  Deletes an action
- Load Preset :
  Allows to load an On Air Preset
- Set Input To :
  Allows to switch the processor onto analog input, digital input or both.
- Auto Switch Input Mode :
  Allows to change switching inputs mode (Backup, Priority or Off)
- Stereo Generator Mode :
  Allows to switch Stereo Generator in Mono, Stereo...
- ByPass :
  Allows or not processor ByPassing
- MPX Guard Status :
  Activates or not MPX Guard
- RDS STATUS On/Off :
  Activates or not RDS
- RDS RT STATUS On/Off :
  Activates or not the Radio Text feature of RDS+C60
- RDS AF STATUS On/Off:
  Active or not the list of programmed AF's

"Out" pins (pin 13 to 24) :

- No Action :
  Deletes an action
- Input Type :
  Shows input type used (Analog, Digital or both)
- Auto Switch Input on :
  Shows input mode used (Normal or Backup)
- Last Activated switch :
  Shows last activated "In" pin (1 to 8)
- Process Input Level "Below than..." or "Upper than..." :
  Active if process input is below or above the threshold
- Analog Input Level "Below than..." or "Upper than..." :
  Active if analog input is below or above the threshold
- Digital Input Level "Below than..." or "Upper than..." :
  Active if digital input level is below or above the threshold
- Digital Outpt Level "Below than..." or "Upper than..." :
  Active if digital output level is below or above the threshold
- TX1 Deviation "Below than..." or "Upper than..." :
  Active if TX1's deviation is below or above the threshold
- TX2 Deviation "Below than..." or "Upper than..." :
  Active if TX2's deviation is below or above the threshold
- 19 kHz Pilot Deviation "Below than..." or "Upper than..." :
  Active if 19 kHz Pilot deviation is below or above the threshold
- My Heartbeat :
  processor's heartbeat > blinks when everything is OK

- **Specifications**

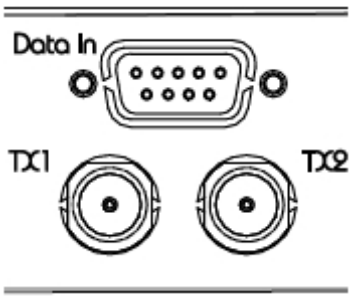
Connector type	SUB D 25 point female
Cabling	Pin1=Preset1 Pin2=Preset2 Pin3=Preset3... up to16 Pin 19=alarme1 Pin 20=alarme2 ... up to 24 Pin25=Masse
Max Length.	10 metres

Port « Data »

Le DEP has a supplementary RS 232 port called « Data », aimed at receiving data from the UECP protocol (SPB490 standard) where a flow of dynamic RDS can be received (WARNING this flow is not legal in all countries!)

Connector type	Male
Cabling	2=RX 3=TX 5=Ground
Max Length.	10 metres

TX1 & TX2



The DEP has 2 multiplex outputs "**TX1 et TX2**" which can be set separately via the Master Gate.

The connectors are female BNCs.

WARNING: as the MPX signal is quite "fragile", we advise you to use the shortest cables possible. A standard cable will measure 2metres. For any length over this use the highest quality cable.

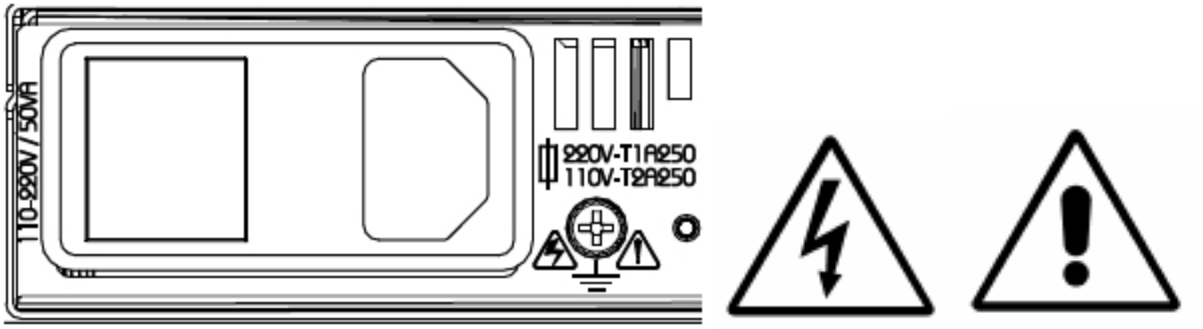
- **Specifications for TX1 & TX2**

Connector type	BNC female
Cabling	Ground=body of the connector, Hot point= central Pin
Impedance	75 Ohms
Level delivered	From - the infinity to + 22 dB
Length of cable advised	2 meters

SUB

The DEP has two SUB inputs. This one are independently allocated for the one to the TX 1 output and the other one to the TX 2 output.
These two inputs work in Unitarian level, consequently no access in regulation of level is accessible since the control software. These two inputs can beings used for the insertion of signals RDS, SCA, SWIFT, DARC...

AC Input



In order to ensure that the processor is protected from all disturbances the **DEP** is protected by an extremely efficient power supply filter. This filter also has 3 other functions.

- ON/OFF SWITCH
- Container of the fuses
- IEC standard cable socket

WARNING: as you will have seen there are ventilation outlets just next to the filter. To ensure optimized ventilation never obstruct these outlets.

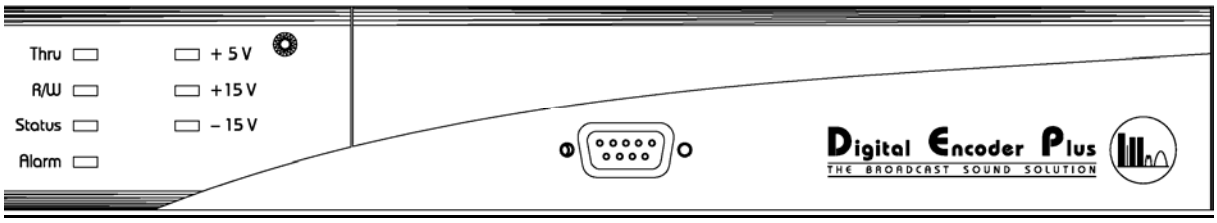
WARNING: to guarantee an optimized protection to respect the Low Power Directives standards we advise you to always use ceramic temporized fuses.

The **DEP** has a direct ground link and we advise you, wherever possible, to use this to ensure perfect grounding.
The **DEP** has a wide band power supply meaning it can take from 115 or 230 volts in 50 or 60 Hz with no need for any manual change. We advise you to use fuses with high power of cut (ceramic body) T2A 250V for use on a 230V network and T4A 250V for 115V.

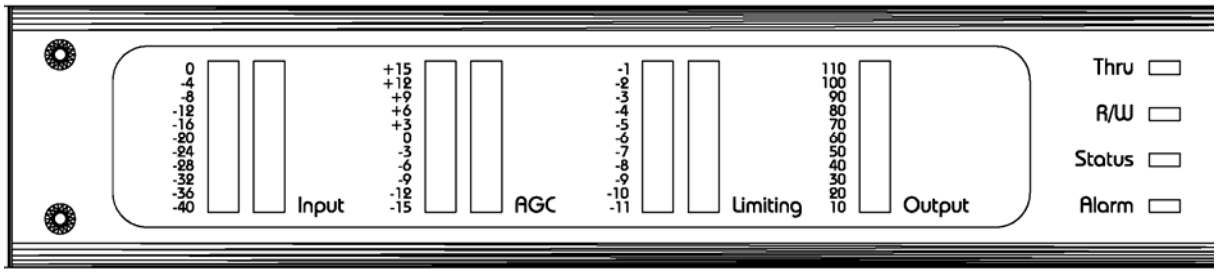
Specifications

Connector type	IEC
Fuse Type	Pour 115V : 4AT 250V Pour 230V : 2AT 250V
Power	From 88 to 132 VAC / 176 to 264 VAC (automatic switch)
Consomption	110V - 240V = 130 VA

II-2 – The Front Panel of the DEP



- **The settings of the DEP are to be made via the Master Gate software, by connection RS 232 or by TCP/IP.**



Vu-meters and LEDS allow you to check the input level, the work of the AGC and the limiting of the modulation levels on the TX outputs.

- **Supplementary RS 232 port:**

To facilitate the access to the DEP when it is rack mounted and when you cannot stay linked to the processor permanently IDT has placed a supplementary RS 232 port on the front panel.

Connector type	Male
Cabling	2=RX 3=TX 5=Ground
Max.length	10 metres

II-3 – Installing the « Master Gate » software

WARNING:

The « Master Gate » software is compatible with the following operating systems:

Windows 2000
Windows XP

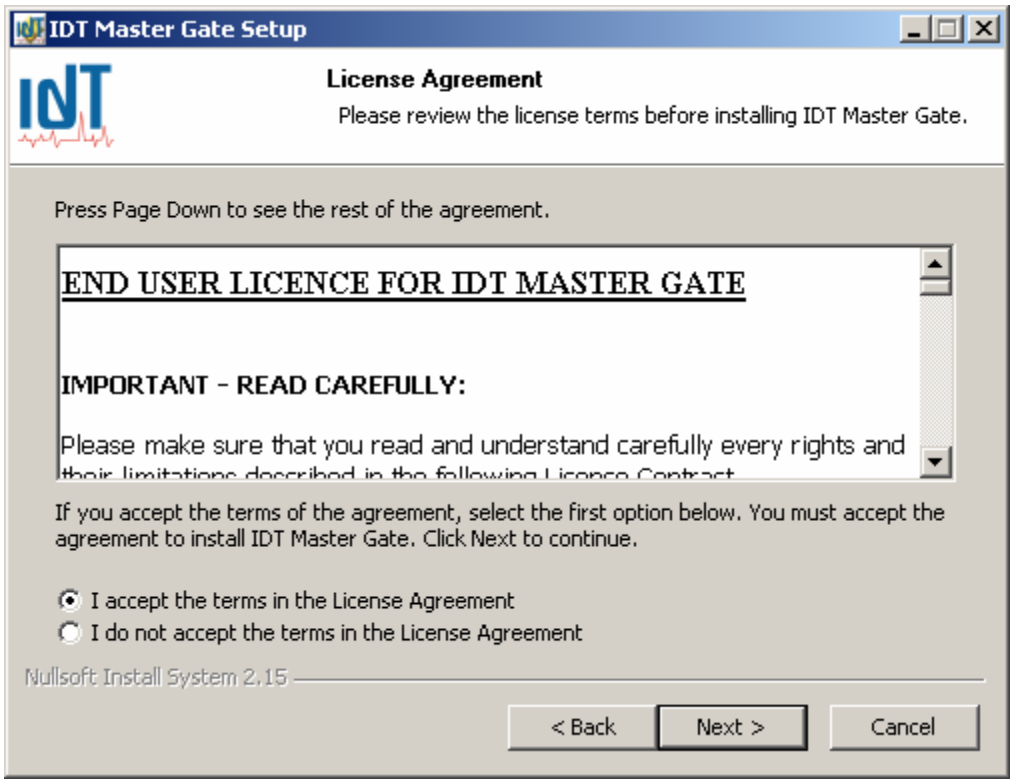
IDT Sound Processing Corporation cannot guarantee that the software will run under other OSs.

Installation:

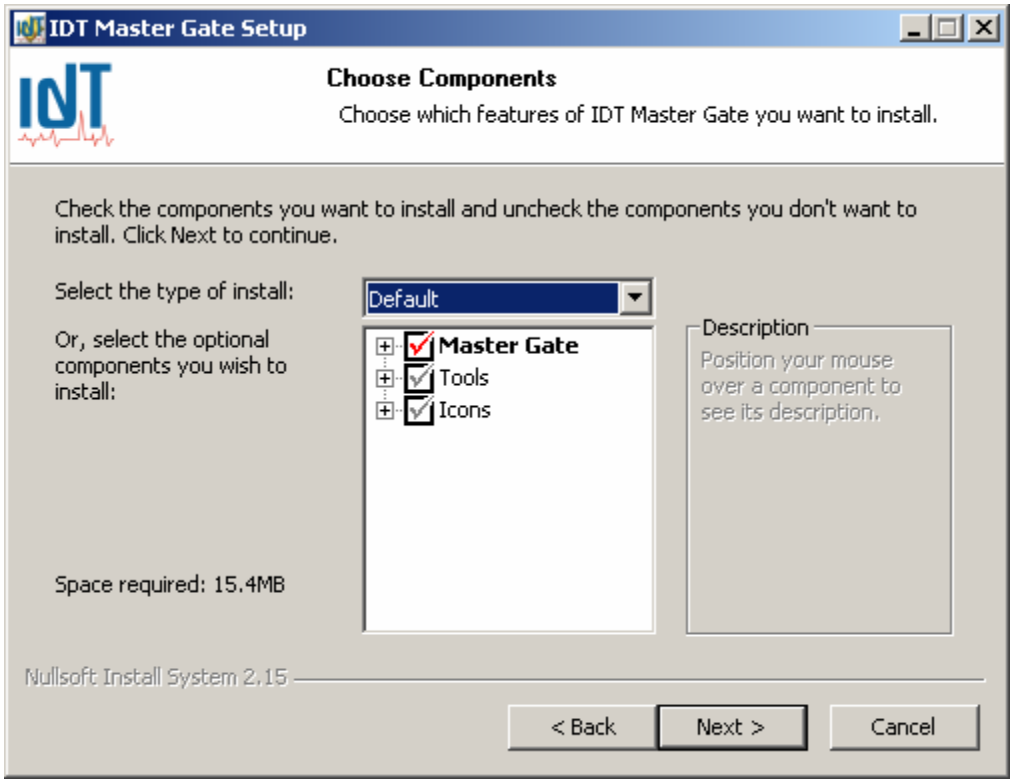
Insert the CD-Rom in your computer
The install programme will start up:

IDT Master Gate Setup
Welcome to the IDT Master Gate Setup Wizard
This wizard will guide you through the installation of IDT Master Gate.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Sound Processing Corporation
IDT Sound Processing Corporation
Web site : www.idt-fr.com
Technical support : support@idt-fr.com
Next >
Cancel

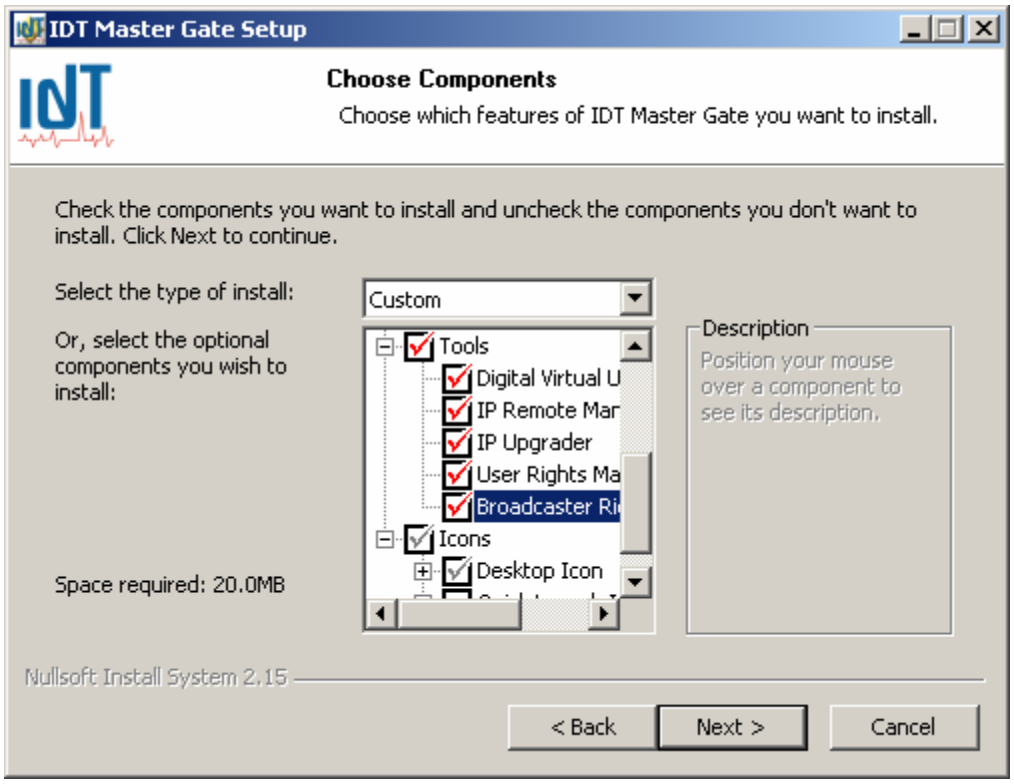
Click « next ».


IDT Master Gate Setup
License Agreement
Please review the license terms before installing IDT Master Gate.
Press Page Down to see the rest of the agreement.
END USER LICENCE FOR IDT MASTER GATE
IMPORTANT - READ CAREFULLY:
Please make sure that you read and understand carefully every rights and
If you accept the terms of the agreement, select the first option below. You must accept the agreement to install IDT Master Gate. Click Next to continue.
I accept the terms in the License Agreement
I do not accept the terms in the License Agreement
Nullsoft Install System 2,15
< Back
Next >
Cancel

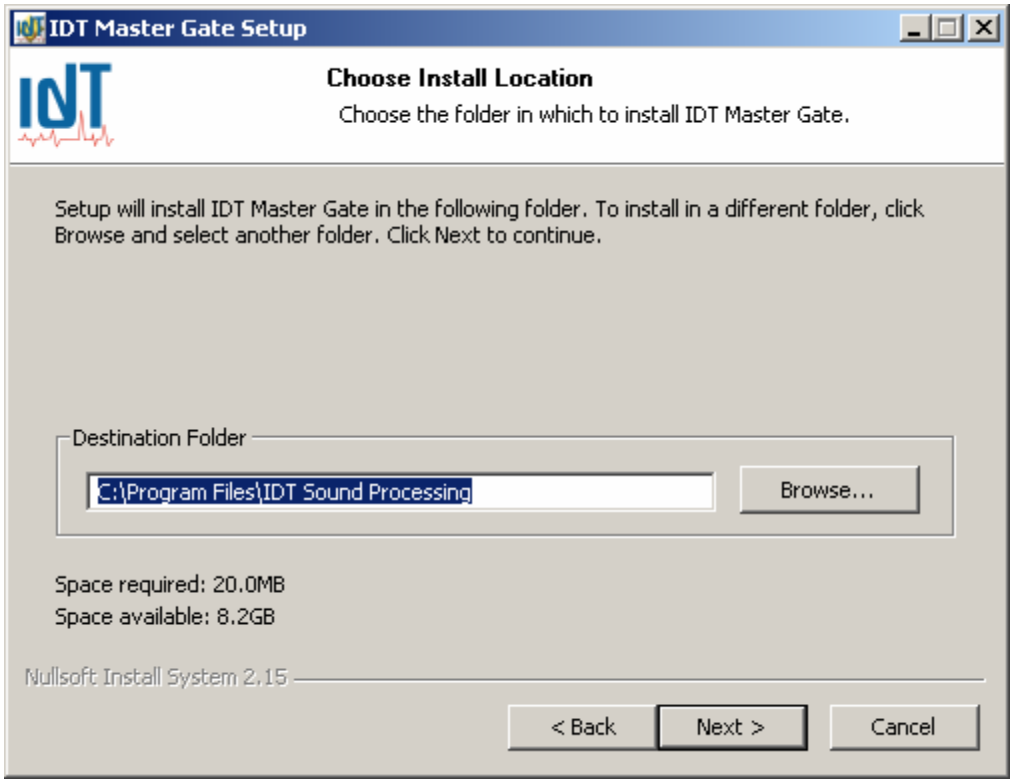
Read the user licence carefully, accept the terms and click « next ».


IDT Master Gate Setup
Choose Components
Choose which features of IDT Master Gate you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select the type of install:
Default
Or, select the optional components you wish to install:
Master Gate
Tools
Icons
Description
Position your mouse over a component to see its description.
Space required: 15.4MB
Nullsoft Install System 2,15
< Back
Next >
Cancel

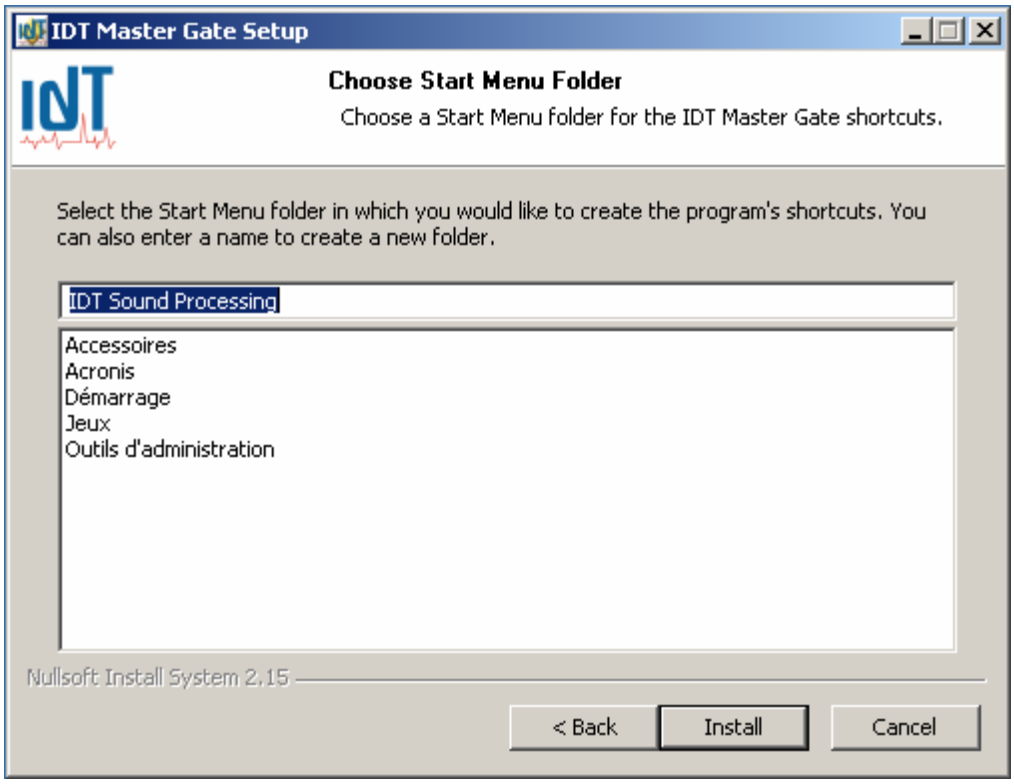
You can also install the configuration tool for the Ethernet cards, if you have this option installed in your processor, and place an icon for the application and/or the upgrade on your desk-top or in the « Quick Launch ®» bar.


IDT Master Gate Setup
Choose Components
Choose which features of IDT Master Gate you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select the type of install:
Custom
Or, select the optional components you wish to install:
Tools
Digital Virtual U
IP Remote Mar
IP Upgrader
User Rights Ma
Broadcaster Ri
Icons
Desktop Icon
Description
Position your mouse over a component to see its description.
Space required: 20.0MB
Nullsoft Install System 2,15
< Back
Next >
Cancel

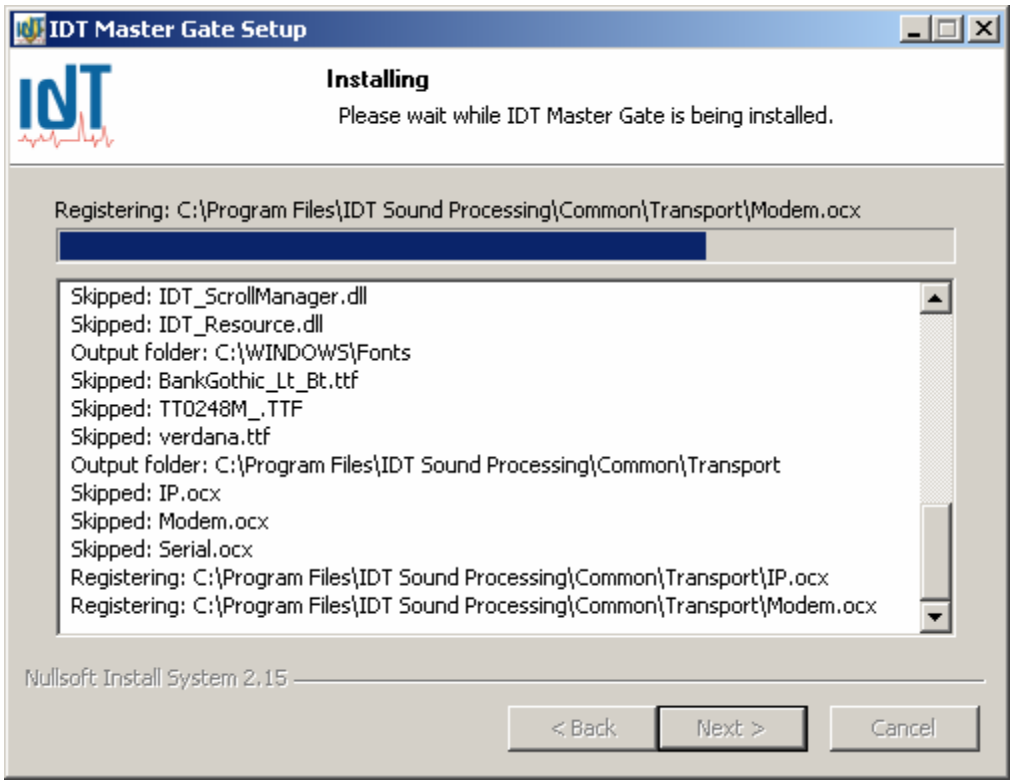
Then click « next ».


IDT Master Gate Setup
Choose Install Location
Choose the folder in which to install IDT Master Gate.
Setup will install IDT Master Gate in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
Destination Folder
C:\Program Files\IDT Sound Processing
Browse...
Space required: 20.0MB
Space available: 8.2GB
Nullsoft Install System 2,15
< Back
Next >
Cancel

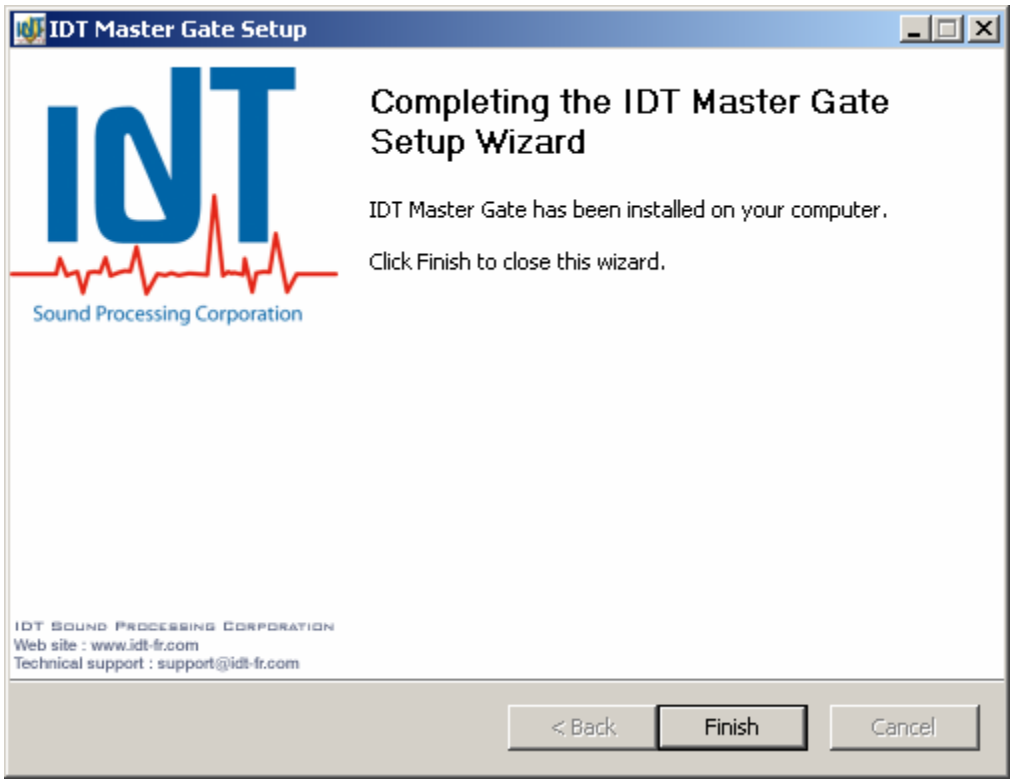
Choose the folder where the programme will be located by default « C:\Program Files\IDT Sound Processing »), and click « next ».


IDT Master Gate Setup
Choose Start Menu Folder
Choose a Start Menu folder for the IDT Master Gate shortcuts.
Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder.
IDT Sound Processing
Accessoires
Acronis
Démarrage
Jeux
Outils d'administration
Nullsoft Install System 2,15
< Back
Install
Cancel

You can modify where you will find the shortcuts in the Start menu of Windows. Then click « Install ».



The programme begins its installation, which can take a few minutes. You can keep an eye on the progress by clicking « More info ». Wait for the completion of the installation.


IDT Master Gate Setup
Completing the IDT Master Gate Setup Wizard
IDT Master Gate has been installed on your computer.
Click Finish to close this wizard.
Sound Processing Corporation
IDT Sound Processing Corporation
Web site : www.idt-fr.com
Technical support : support@idt-fr.com
< Back
Finish
Cancel

You should restart your computer to make sure that the programme is properly installed. You can always restart later but the programme may not work properly if you don't do it.

You have correctly installed the « Master Gate ». All you have to do now is link up to the processor.

II-4 – Connecting your processor to a PC

There are several ways to connect your PC to an IDT processor:

- Direct connection (Serial port RS232)

Connect the serial cable (supplied) to the RS232 serial port of the PC (female connector) and to the male RS232 port of your processor. (front or rear of the unit). Warning: DO NOT MISTAKE THIS PORT FOR THE MODEM PORT!

- By Modem

Connect the Modem to the « modem » port of the processor. The necessary cable is not supplied by IDT Sound Processing Corporation. IDT Sound Processing Corporation can only guarantee that the modem connection works correctly with modems that are HAYES compatible (US robotics for example).

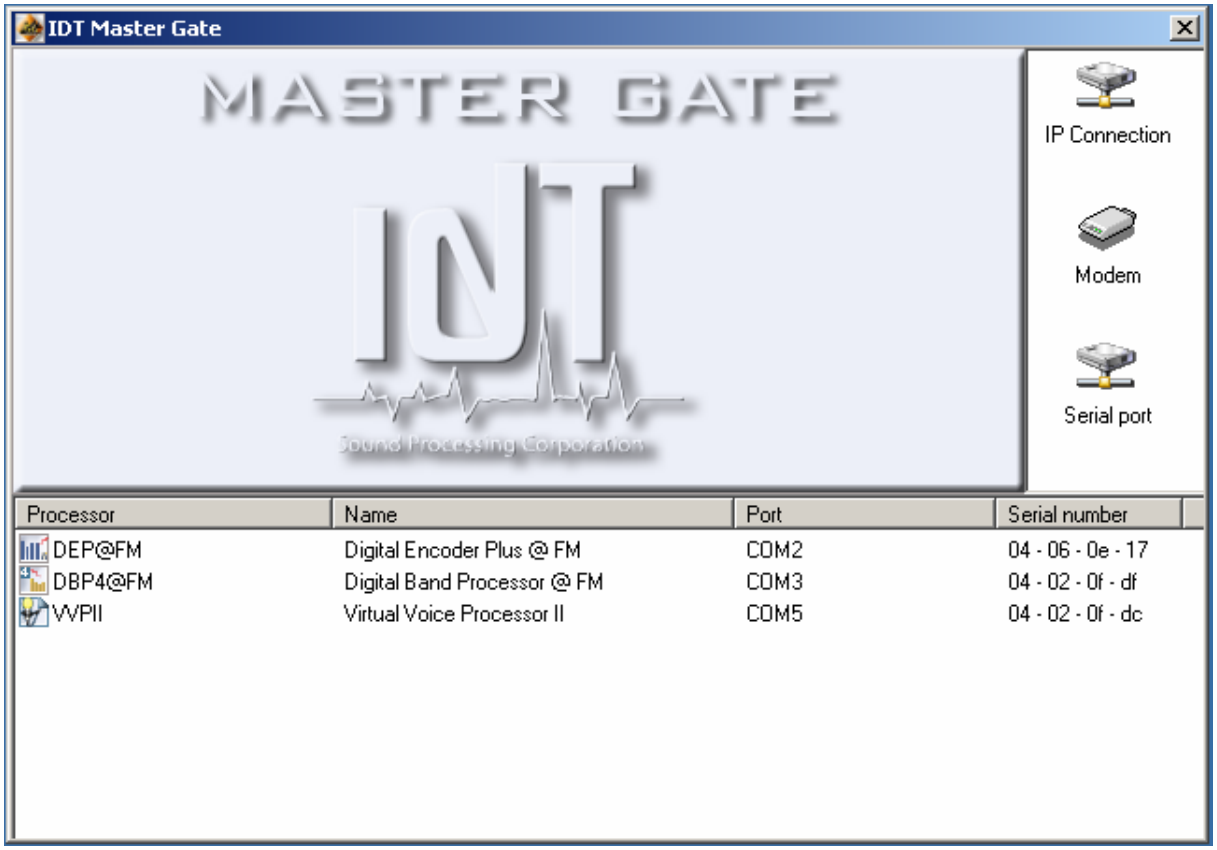
- By TCP/IP

If you have taken the Ethernet option with your processor you can connect via TCP/IP. In this case fix an RJ45 class 5 cables to the RJ45 port on the rear of your processor. You can use a straight cable to link to a hub or a Switch or a to link directly to the network card of your PC or your router (ADSL for example).

Configuring the connections

The first thing to do is to launch the « Master Gate ». To do so click one of the icons created during the installation of the programme.

A screen will appear and the programme will look for the processors connected to the serial ports of your computer.



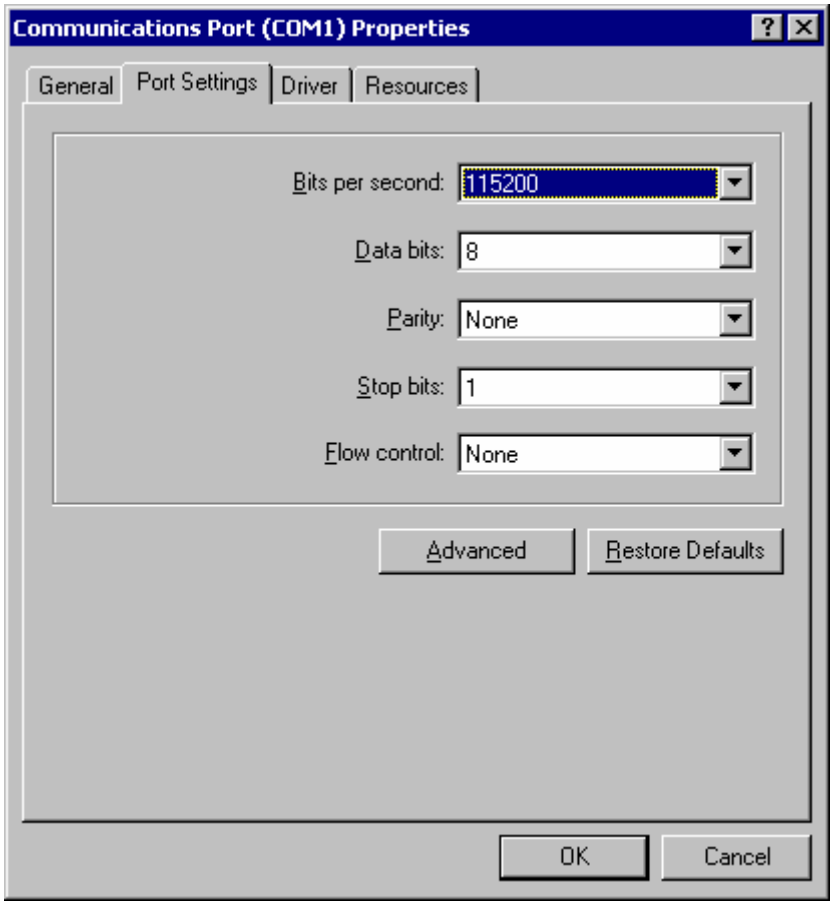
1. Direct connection

Normally, nothing has to be done to get the connection. When the application is first launched the programme will display the processors connected to the serial ports of the computer.

Choose the processor you want to link up to and double click its name.

If you want to re-launch the detection of the processors click the « Serial Port » icon on this screen.

If the connection doesn't work make sure your serial ports are configured as follows;

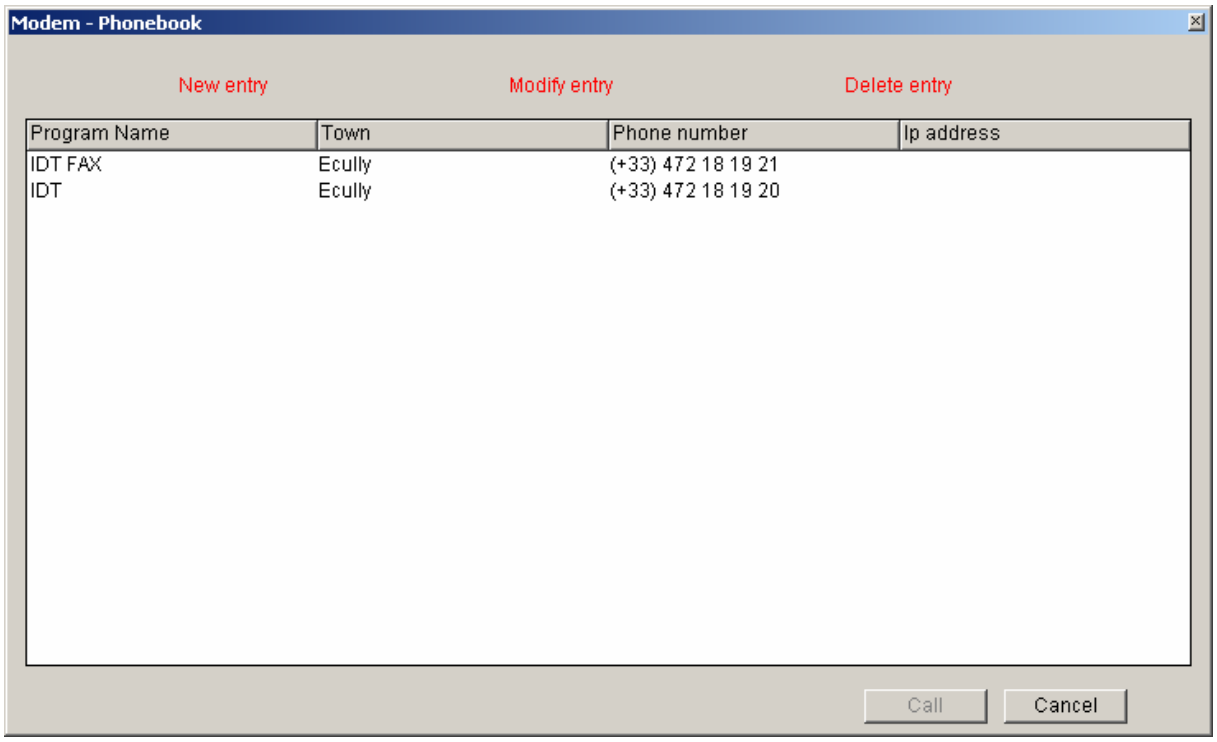


To access these parameters go to the Peripherals Management window and double-click the COM port that you want to parameter.

Different configurations can work but IDT Sound Processing Corporation cannot guarantee that everything will be without problem.

2. Connection by Modem

To link up by modem, click the « Modem » icon on the Welcome screen of the Master Gate. The following screen will appear which is a kind of phone book of the processors you can connect to.

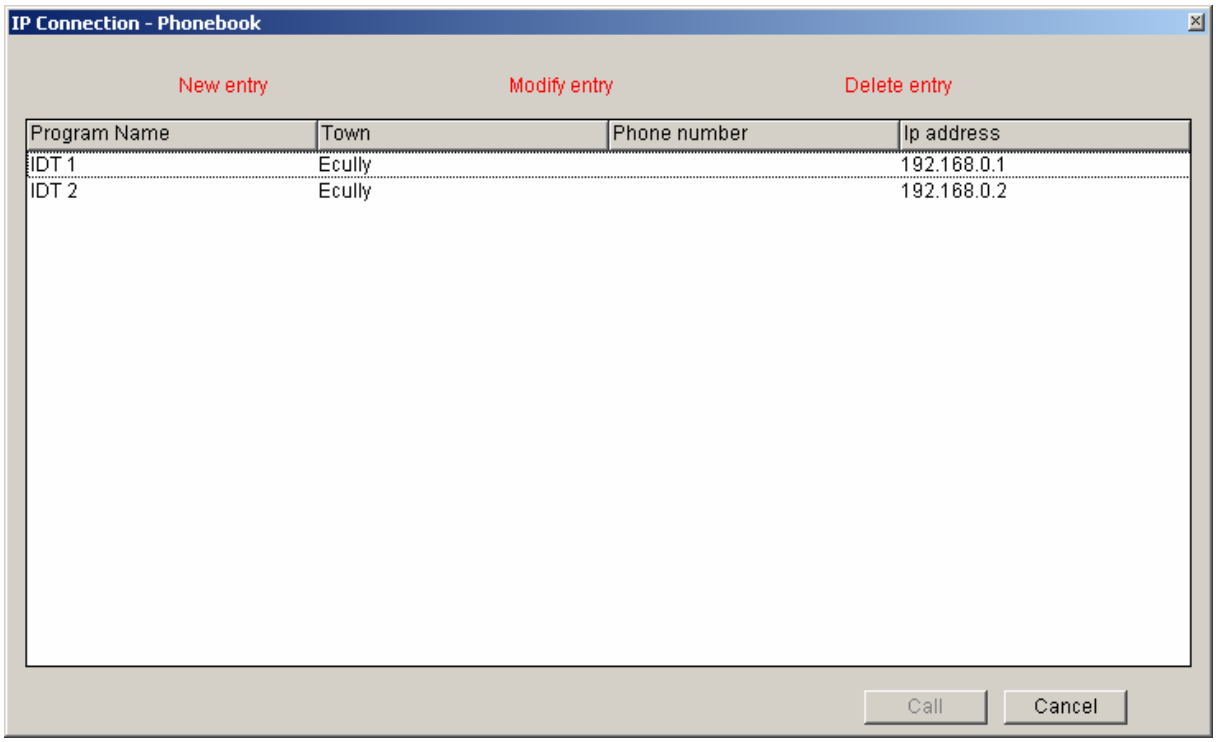


By clicking « New Entry », you can add a processor by entering the name of the programme, the town where the equipment is located and, above all, the phone number to call.

NB: IDT processors automatically reply when there is a call on the line connected to the modem. Make sure you are well protected by passwords.

3. Connection by TCP / IP

To link up by TCP/IP, as for the modem, you can click on the « IP Connection » icon of the Welcome screen of the Master Gate.
« IP book » is displayed and the phone book of the processors you are connected to by TCP/IP.



By clicking « New Entry », you can add a processor by entering the name of the program, the town where the equipment is located and, above all, the IP address of the Ethernet card.

NB: As for a modem connection, the processors reply to each request, so think about protecting them with passwords!

To link up via TCP/IP, you need to know the IP address of your processor.

- **DHCP**

By default, the Ethernet cards supplied by IDT Sound Processing Corporation are configured to always request an IP address from DHCP server on the network you're linked to. You should then ask the network administrator to give you the IP address attributed to your processor, and possibly to create a DHCP reservation for this address to make sure it's never changed.

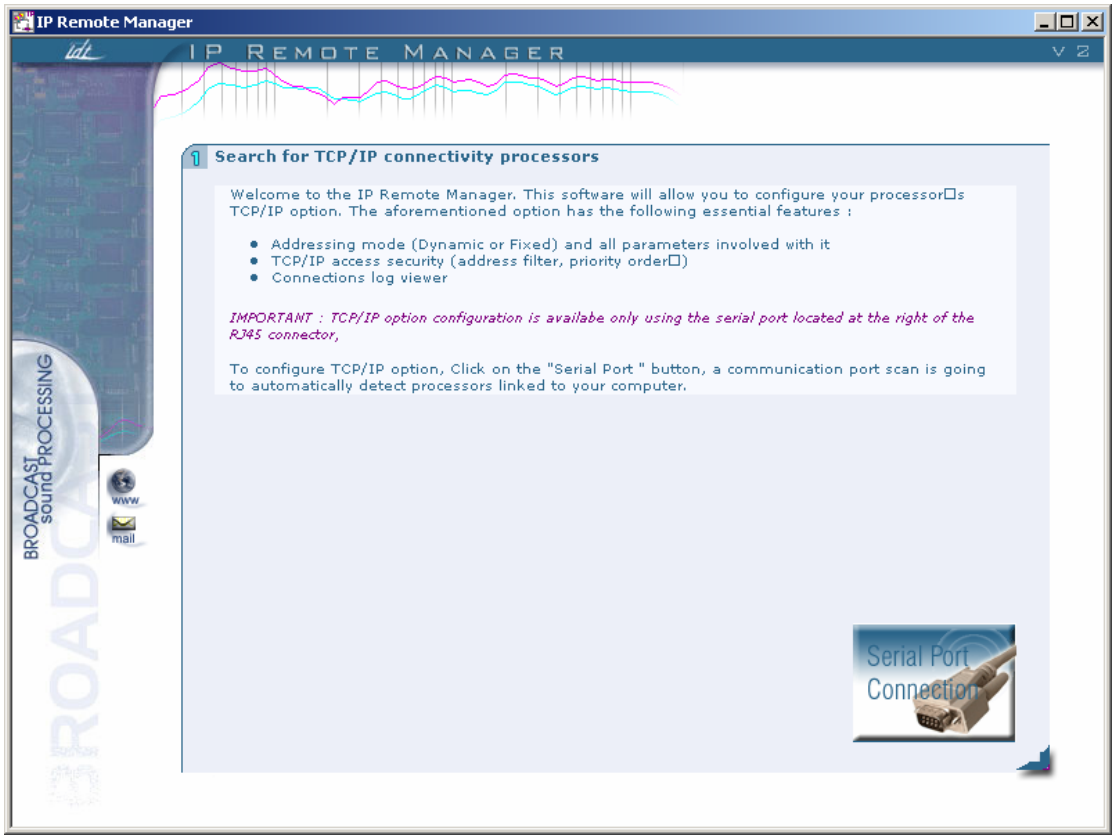
If your processor has a fixed address attributed to it and you wish to return to an automatic configuration of the TCP/IP parameters, you should follow the following steps and select « Dynamic addressing (DHCP) » in the Address Parameter screen of the processor.

- **Attribution of a fixed IP address for your processor.**

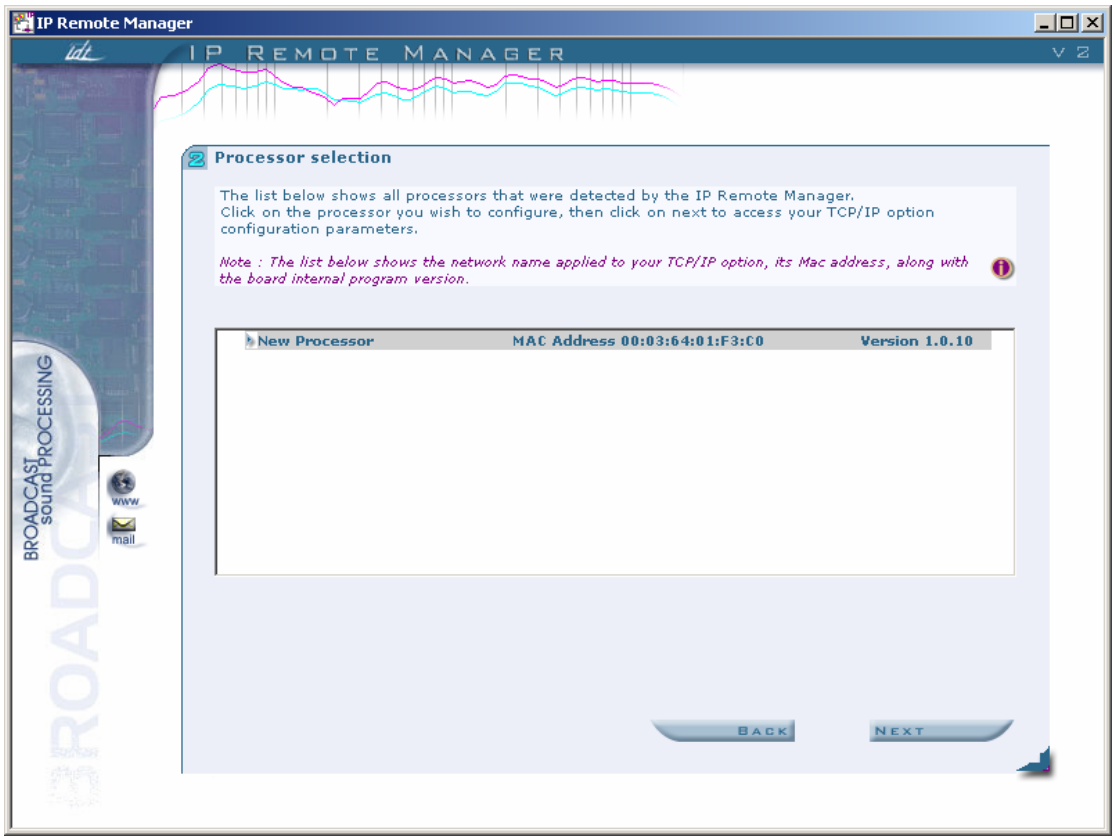
If your network does not have a DHCP server and you connect directly (by a crossed RJ45 cable) to the processor, or if this is imposed by your administrator you can attribute a fixed address to your processor.

To do so you must have installed the « IP Remote Manager » software.
Connect your PC to the RS232 serial port located next to the RJ45 of your processor.

Launch « IP Remote Manager » via the shortcut in the Start menu: « programs, IDT Sound Processing, Tools, IP Remote Manager ».

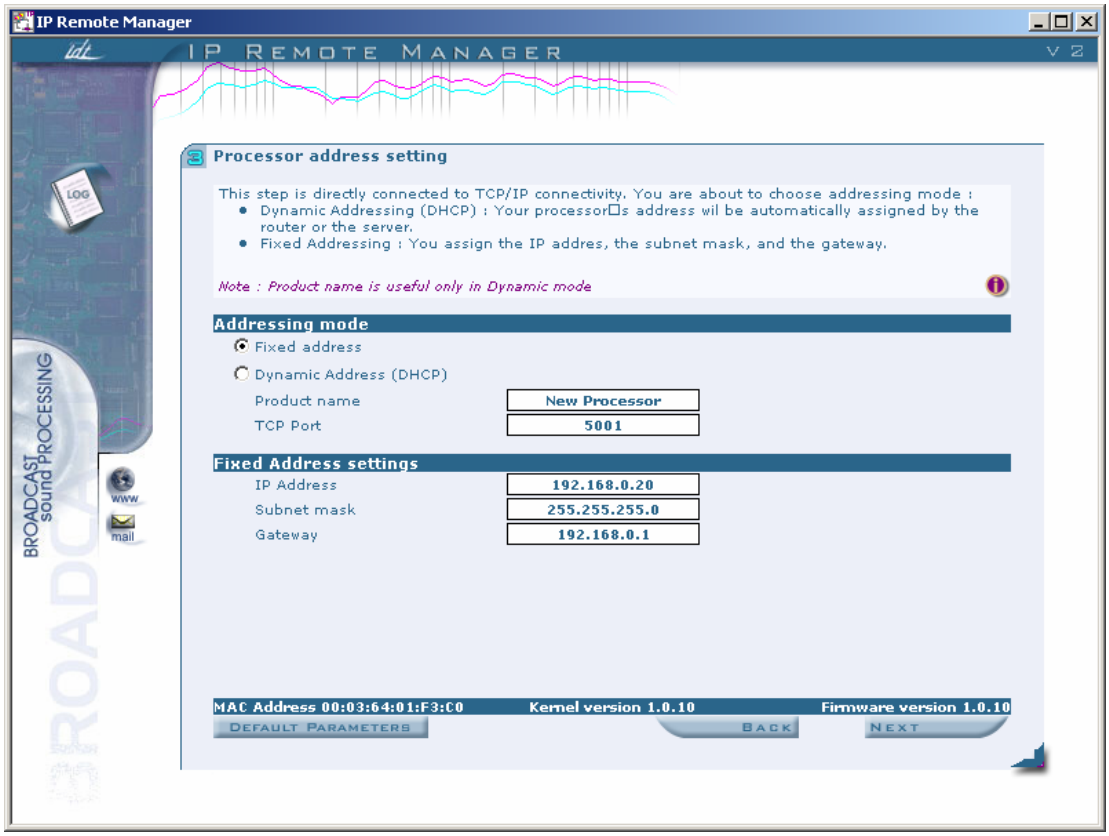

IP Remote Manager
IP REMOTE MANAGER
V 2
1 Search for TCP/IP connectivity processors
Welcome to the IP Remote Manager. This software will allow you to configure your processor□s TCP/IP option. The aforementioned option has the following essential features :
Addressing mode (Dynamic or Fixed) and all parameters involved with it
TCP/IP access security (address filter, priority order□)
Connections log viewer
IMPORTANT : TCP/IP option configuration is availabe only using the serial port located at the right of the RJ45 connector,
To configure TCP/IP option, Click on the "Serial Port " button, a communication port scan is going to automatically detect processors linked to your computer.
Serial Port Connection
BROADCAST sound PROCESSING
www
mail

Click the Serial Port button ».
The software will scan all the serial ports of your PC to find the processor. The software will then display the results of the search:


IP Remote Manager
IP REMOTE MANAGER
V 2
2 Processor selection
The list below shows all processors that were detected by the IP Remote Manager.
Click on the processor you wish to configure, then click on next to access your TCP/IP option configuration parameters.
Note : The list below shows the network name applied to your TCP/IP option, its Mac address, along with the board internal program version.
New Processor
MAC Address 00:03:64:01:F3:C0
Version 1.0.10
BACK
NEXT
BROADCAST sound PROCESSING
www
mail

Select your processor and click « next ».

NB: This window can be useful for your network administrator. He can read the MAC addresses of your processors, essential to create DHCP reservations.

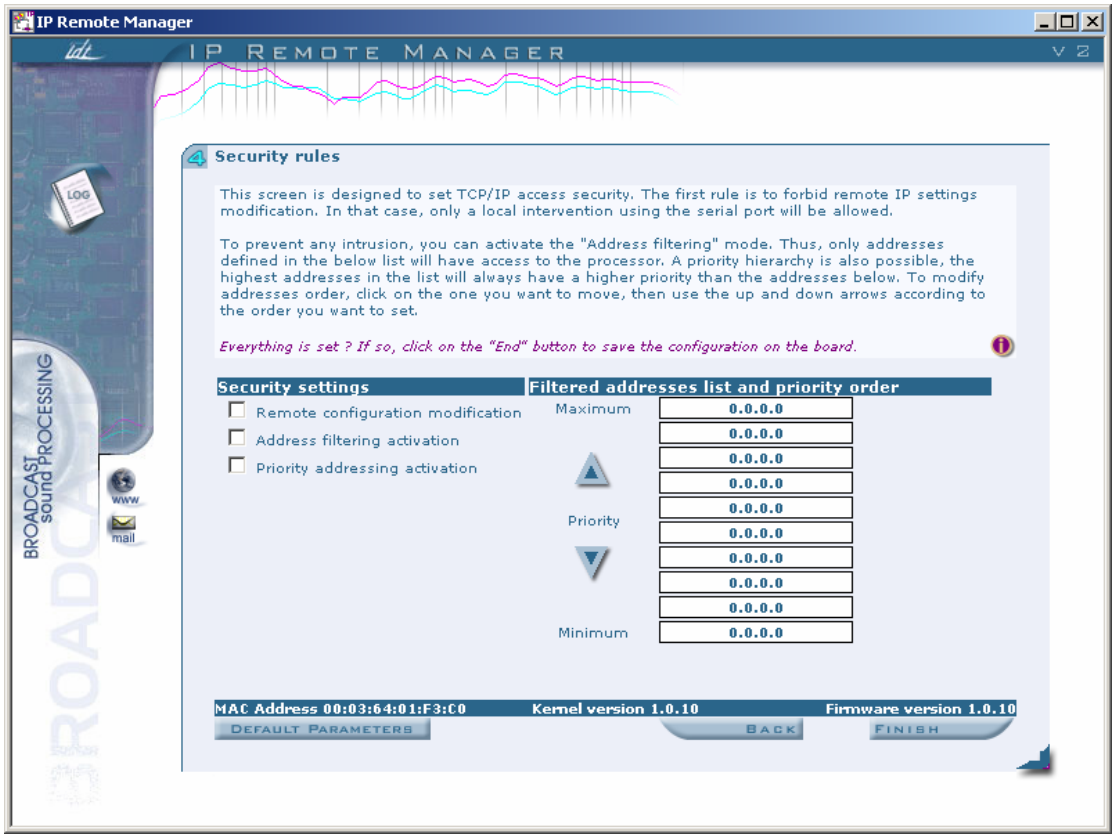


On this window you'll be able to give your processor a name (NETBIOS) and a fixed IP address. Ask your administrator to give you the other parameters (Subnet mask, gateway...) to ensure that communication can be established between your PC and the processor. This window will also allow you to return to a dynamic address assigned by a DHCP server.

By default, the TCP communication of our processors is 5001. This parameter can be changed. Ask your network administrator before making any modifications.
This port can be re-directed via a firewall or a router for remote internet connections. Here again your administrator can help configure the equipment for this kind of connection.

- **Firewall / Access control :**

The IDT Sound Processing Corporation Ethernet cards have a simplified firewall which accepts or refuses connections coming from several IP addresses. These parameters should be set up with your network administrator.

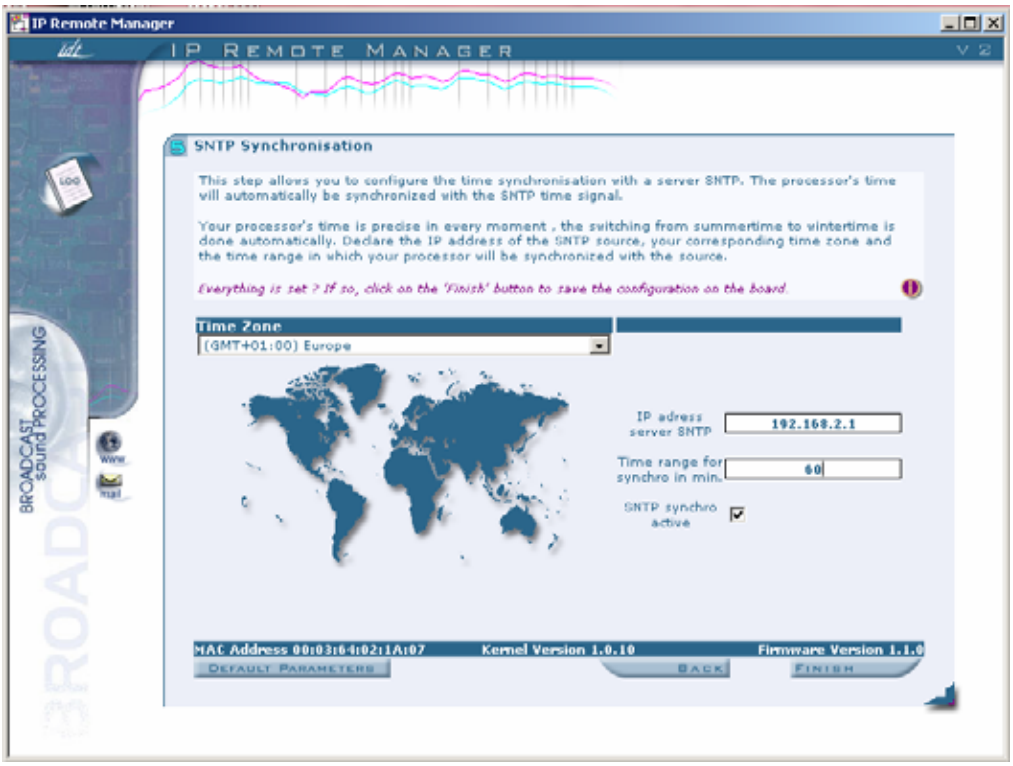

IP Remote Manager
IP REMOTE MANAGER
V 2
Security rules
This screen is designed to set TCP/IP access security. The first rule is to forbid remote IP settings modification. In that case, only a local intervention using the serial port will be allowed.
To prevent any intrusion, you can activate the "Address filtering" mode. Thus, only addresses defined in the below list will have access to the processor. A priority hierarchy is also possible, the highest addresses in the list will always have a higher priority than the addresses below. To modify addresses order, click on the one you want to move, then use the up and down arrows according to the order you want to set.
Everything is set ? If so, click on the "End" button to save the configuration on the board.
Security settings
Remote configuration modification
Address filtering activation
Priority addressing activation
Filtered addresses list and priority order
Maximum
Priority
Minimum
0.0.0.0
MAC Address 00:03:64:01:F3:C0
Kernel version 1.0.10
Firmware version 1.0.10
DEFAULT PARAMETERS
BACK
FINISH
LOG
www
mail
BROADCAST sound PROCESSING

To finish click « End ».The programme will then send the configuration to your processor after you have confirmed.

The processor can now communicate via TCP/IP by using the fixed address.

- **SNTP synchronization**

The Ethernet cards of IDT Sound Processing Corporation processors allows the synchronization SNTP (Simple Network Time Protocol).
This function so allows synchronizing the hour of your processor as well as the integrated functions as the RDS.


IP Remote Manager
IP REMOTE MANAGER
V 2
SNTP Synchronisation
This step allows you to configure the time synchronisation with a server SNTP. The processor's time will automatically be synchronized with the SNTP time signal.
Your processor's time is precise in every moment , the switching from summertime to wintertime is done automatically. Declare the IP address of the SNTP source, your corresponding time zone and the time range in which your processor will be synchronized with the source.
Everything is set ? If so, click on the 'Finish' button to save the configuration on the board.
Time Zone
(GMT+01:00) Europe
IP adress server SNTP
192.168.2.1
Time range for synchro in min.
60
SNTP synchro active
MAC Address 00:03:64:02:1A:07
Kernel Version 1.0.10
Firmware Version 1.1.0
DEFAULT PARAMETERS
BACK
FINISH
BROADCAST sound PROCESSING

On this screen, you specify the Time Zone, the IP address of the SNTP server, the interval of synchronization in minutes then the activation or not of the synchronization.

II-5 – Additional software

1. IP Remote Manager

Put back you in the section « **Attribution of a fixed IP address for your processor** »

2. Broadcaster Rights Manager

The tool «Broadcaster Rights Manager» allows the access to various parameters or regulations of your processor to a private broadcaster or to an administrator of a site of broadcasting.

The Broadcaster Rights Manager allows you to create a generic file that you can load into all the processors of your fleet in order to limit the access to the parameters of your IDT units.

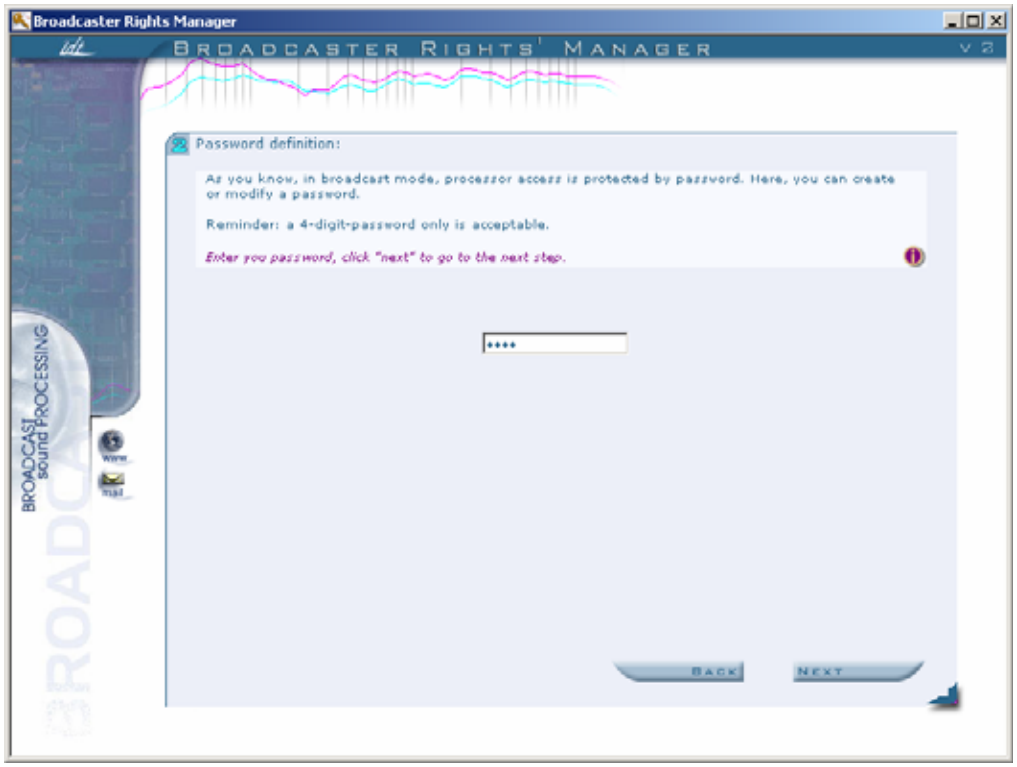
Install the software by clicking the section « type of installation » in the installation programme of the Master Gate.

An icon has been created in the START menu (« Programmes, IDT Sound Processing, Tools »). Click here.

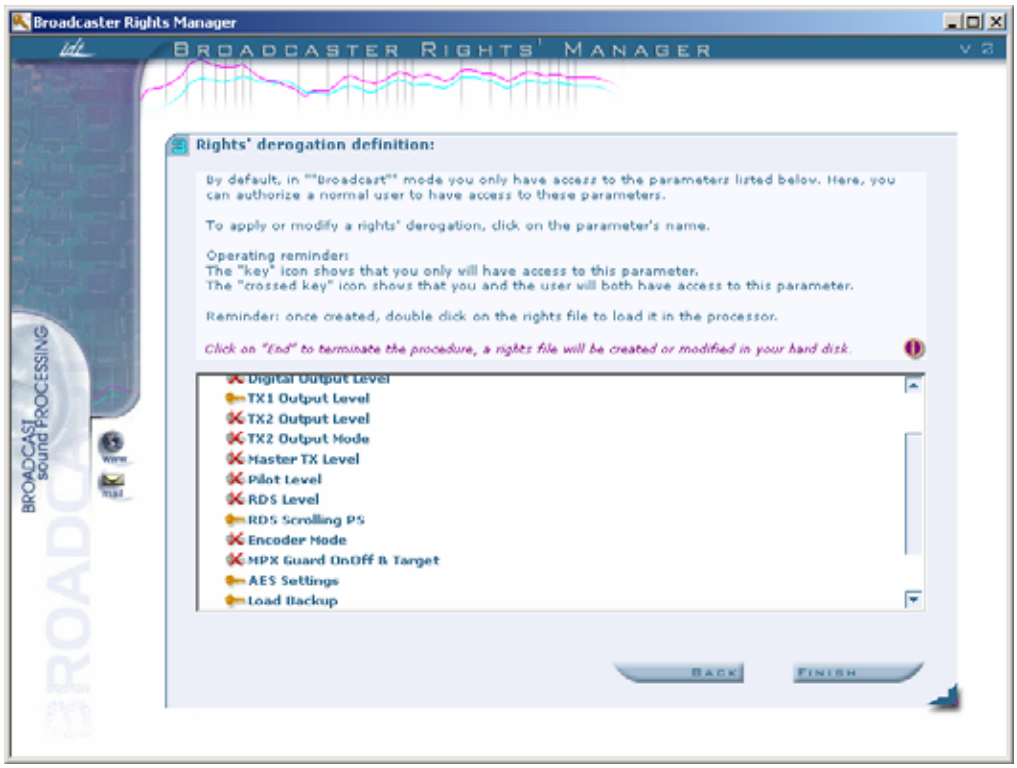
The programme will be launched:

Broadcaster Rights Manager
BROADCASTER RIGHTS' MANAGER
v 2
Creating a broadcaster access rights file:
Welcome to the Broadcaster Rights Manager. This tool is meant to create Radio and Broadcaster access rights file. As you all know, our products are protected by password. Thanks to the Broadcaster Rights Manager you can reduce the possibility for users to access parameters dedicated to broadcast only and not to sound design.
WARNING: you will have to define a password, it will give you access to the parameters you have selected for yourself. Take note of it in a safe place not to forget it.
Within this first step, you can modify an existing rights file or create a new one. Once created, double click on the rights file to load it in the processor.
Click on one of the buttons to launch the function.
Create
Modify
BROADCAST sound PROCESSING

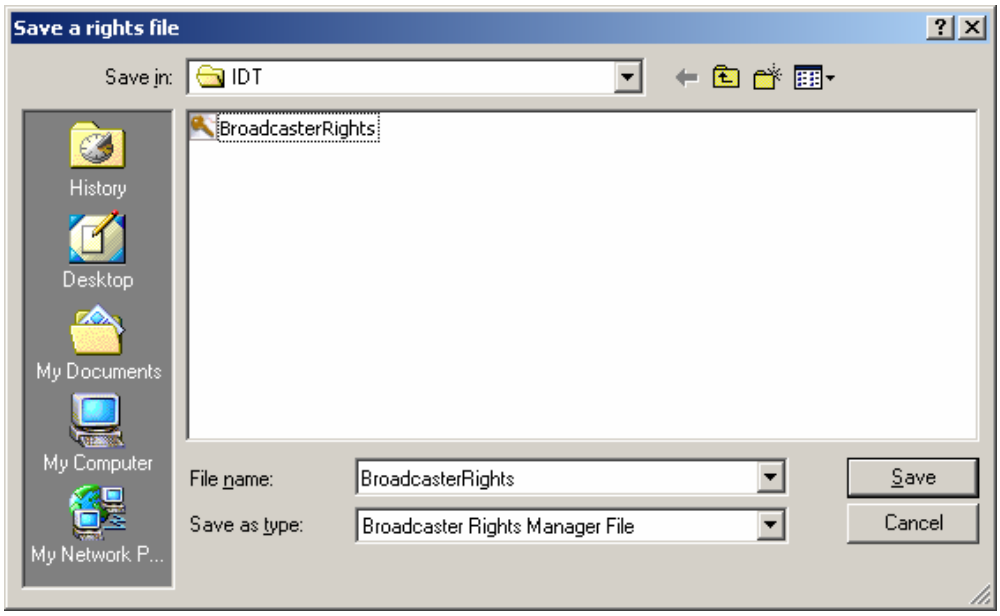
On this screen you can create a file or modify an existing file. Click on Create:


Broadcaster Rights Manager
BROADCASTER RIGHTS' MANAGER
V 2
Password definition:
As you know, in broadcast mode, processor access is protected by password. Here, you can create or modify a password.
Reminder: a 4-digit-password only is acceptable.
Enter you password, click "next" to go to the next step.
****
BACK
NEXT
BROADCAST sound PROCESSING

The programme will ask you to enter a password that you will use as « broadcaster » manager for your processors. Define the password (WARNING, 4 figures only!) and click next.


Broadcaster Rights Manager
BROADCASTER RIGHTS' MANAGER
V 2
Rights' derogation definition:
By default, in ""Broadcast"" mode you only have access to the parameters listed below. Here, you can authorize a normal user to have access to these parameters.
To apply or modify a rights' derogation, click on the parameter's name.
Operating reminder:
The "key" icon shows that you only will have access to this parameter.
The "crossed key" icon shows that you and the user will both have access to this parameter.
Reminder: once created, double click on the rights file to load it in the processor.
Click on "End" to terminate the procedure, a rights file will be created or modified in your hard disk.
Digital Output Level
TX1 Output Level
TX2 Output Level
TX2 Output Mode
Master TX Level
Pilot Level
RDS Level
RDS Scrolling PS
Encoder Mode
MPX Guard OnOff & Target
AES Settings
Load Backup
BACK
FINISH
BROADCAST sound PROCESSING

The following window will allow you to choose the functions the broadcasters will be able to access and those where access will be forbidden. Choose from the list and click « Finish »



The programme will allow you to save the file with all the information in the area you choose.

To load the file in the processors:

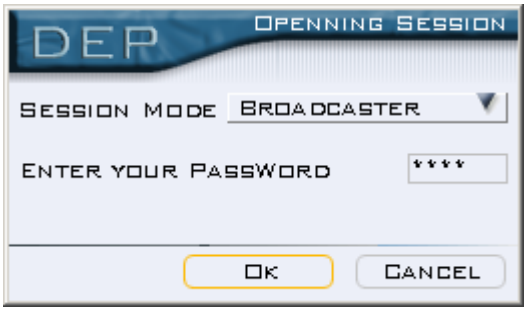
Double click it or slide the file onto the « Master Gate ».

The Master Gate will be launched, scan the ports as with a normal launch and will then ask which processor you want to be linked to. Double click the processor you want to apply the rights to.

The Master Gate will then display the following dialogue box:

The « broadcast » password and the access rights have been changed. You can quit or stay connected to the equipment.

The processor will ask you now every connection for your password and for the access mode which you want to use:



This password (but not the associate's rights) is also changeable by the menu « password » of Master Gate.

3. User Rights Manager

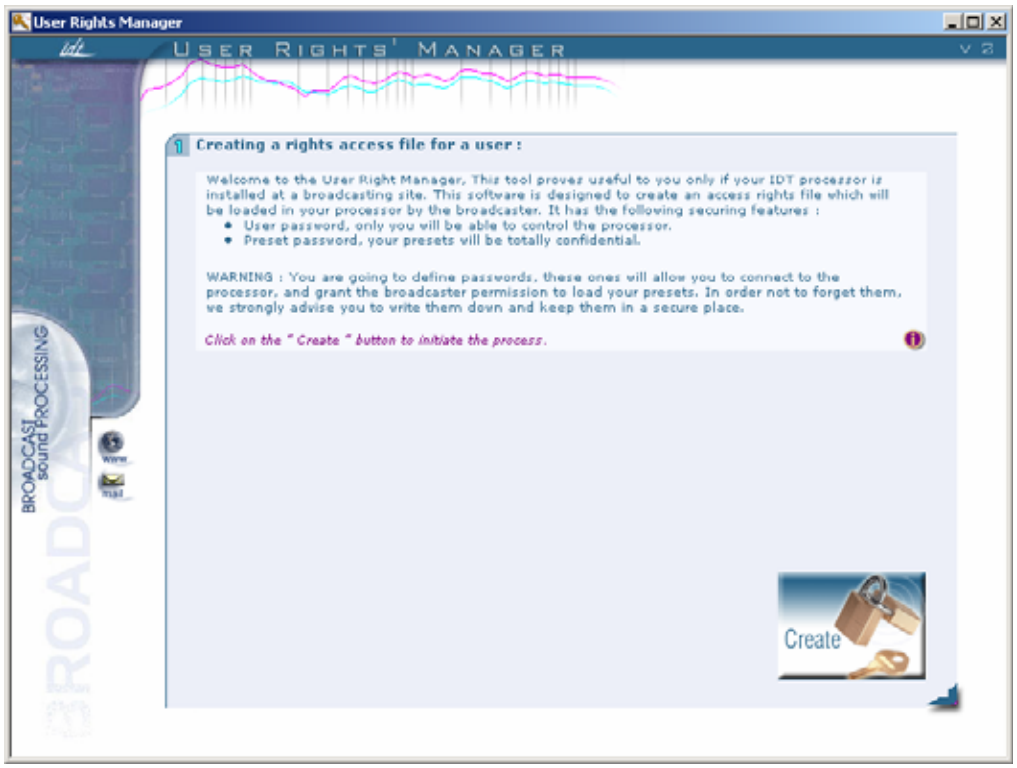
In the same way as to authorize you certain rights for a broadcaster you can define in the same way rights for users.

The User Rights Manager software allows you to create a generic file that you can load into all the processors of your fleet in order to limit the access to the parameters of your IDT units.

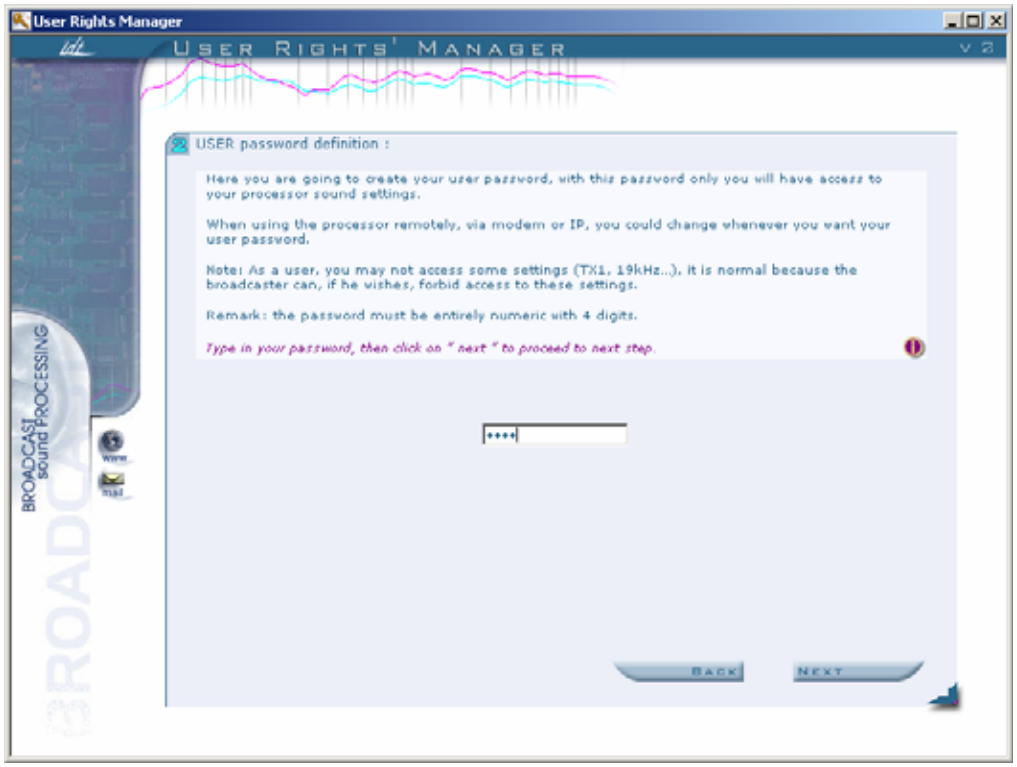
Install the software by clicking the section « type of installation » in the installation programme of the Master Gate.

An icon has been created in the START menu (« Programmes, IDT Sound Processing, Tools »). Click here.

The programme will be launched:

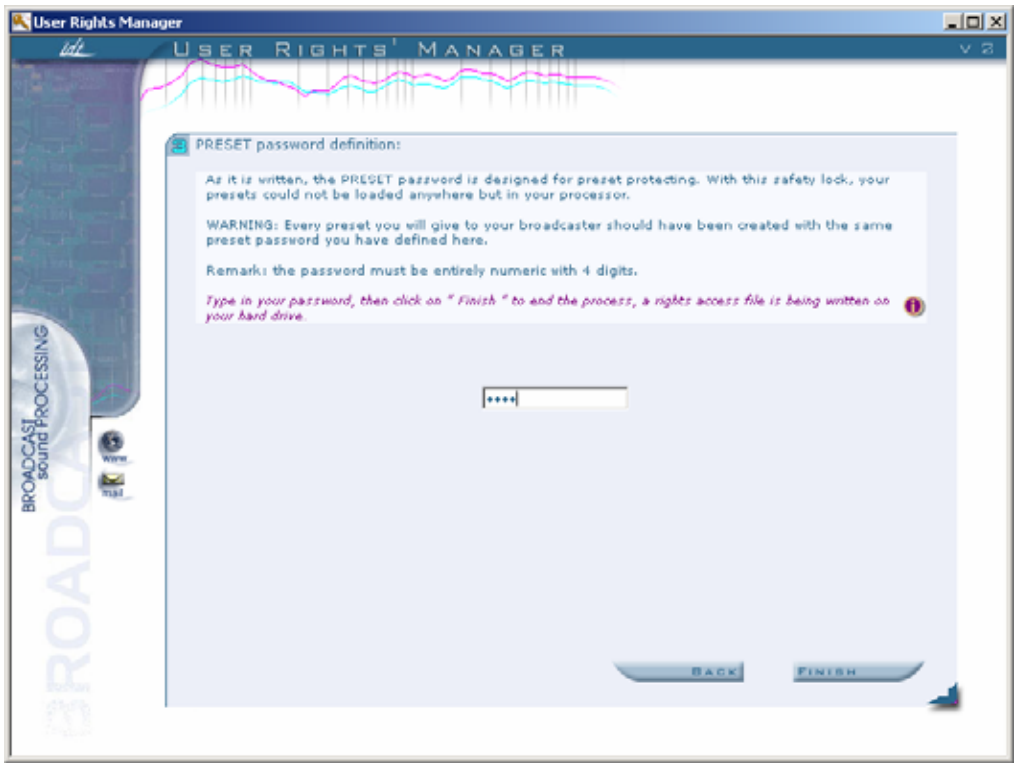

User Rights Manager
USER RIGHTS' MANAGER
v 2
Creating a rights access file for a user :
Welcome to the User Right Manager. This tool proves useful to you only if your IDT processor is installed at a broadcasting site. This software is designed to create an access rights file which will be loaded in your processor by the broadcaster. It has the following securing features :
User password, only you will be able to control the processor.
Preset password, your presets will be totally confidential.
WARNING : You are going to define passwords, these ones will allow you to connect to the processor, and grant the broadcaster permission to load your presets. In order not to forget them, we strongly advise you to write them down and keep them in a secure place.
Click on the " Create " button to initiate the process.
Create
BROADCAST sound PROCESSING

Click « create » to start defining your passwords.


User Rights Manager
USER RIGHTS' MANAGER
v 2
USER password definition :
Here you are going to create your user password, with this password only you will have access to your processor sound settings.
When using the processor remotely, via modem or IP, you could change whenever you want your user password.
Note: As a user, you may not access some settings (TX1, 19kHz...), it is normal because the broadcaster can, if he wishes, forbid access to these settings.
Remark: the password must be entirely numeric with 4 digits.
Type in your password, then click on " next " to proceed to next step.
BACK
NEXT
BROADCAST sound PROCESSING

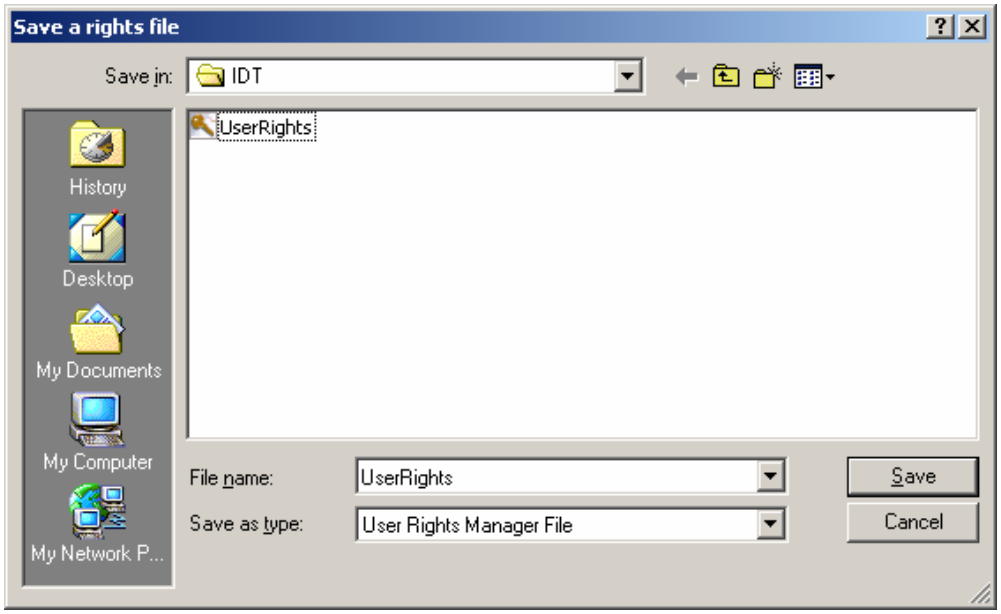
The first stage is to create a « User » password which will allow you to access the main functions of your processor. Some parameters can be blocked to avoid any error of use and to ensure that broadcast standards are respected.

Define a 4 figure password and click « next ».


User Rights Manager
USER RIGHTS' MANAGER
v 2
PRESET password definition:
As it is written, the PRESET password is designed for preset protecting. With this safety lock, your presets could not be loaded anywhere but in your processor.
WARNING: Every preset you will give to your broadcaster should have been created with the same preset password you have defined here.
Remark: the password must be entirely numeric with 4 digits.
Type in your password, then click on " Finish " to end the process, a rights access file is being written on your hard drive.
BACK
FINISH
BROADCAST sound PROCESSING

The next stage will allow you to define a « Preset », password which will allow you to protect the presets that you are going to create. Here, again, you must create a four figure password which will allow you to protect the presets that you have created. Click « End » to save the file.

The programme will allow you to choose the place you want to store the file:



To load the file in the processors:

Double click or slide the file into the « Master Gate » icon.

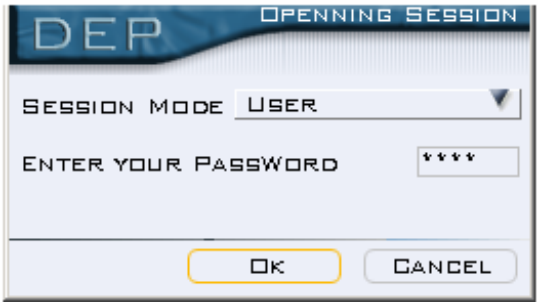
Double click it or slide the file onto the « Master Gate ».

The Master Gate will be launched, scan the ports as with a normal launch and will then ask which processor you want to be linked to. Double click the processor you want to apply the rights to.

The Master Gate will then display the following dialogue box:

The « user » password and the access rights have been changed. You can quit or connect to the equipment

Each time the processor is launched you will be asked for a password and the access mode you want to use:



This password can be changed in the « password » menu of the Master Gate.

4. Digital Virtual Upgrader II

The « Digital Virtual Upgrader II » software has been specially designed to aid the upgrading of your 1U processors (DEP, DBP and VVP) from the IDT Sound Processing Corporation.

This software is included in the standard installation programme which has been delivered with your unit. An icon is created in the start up menu « programs, IDT Sound Processing, Tools ».

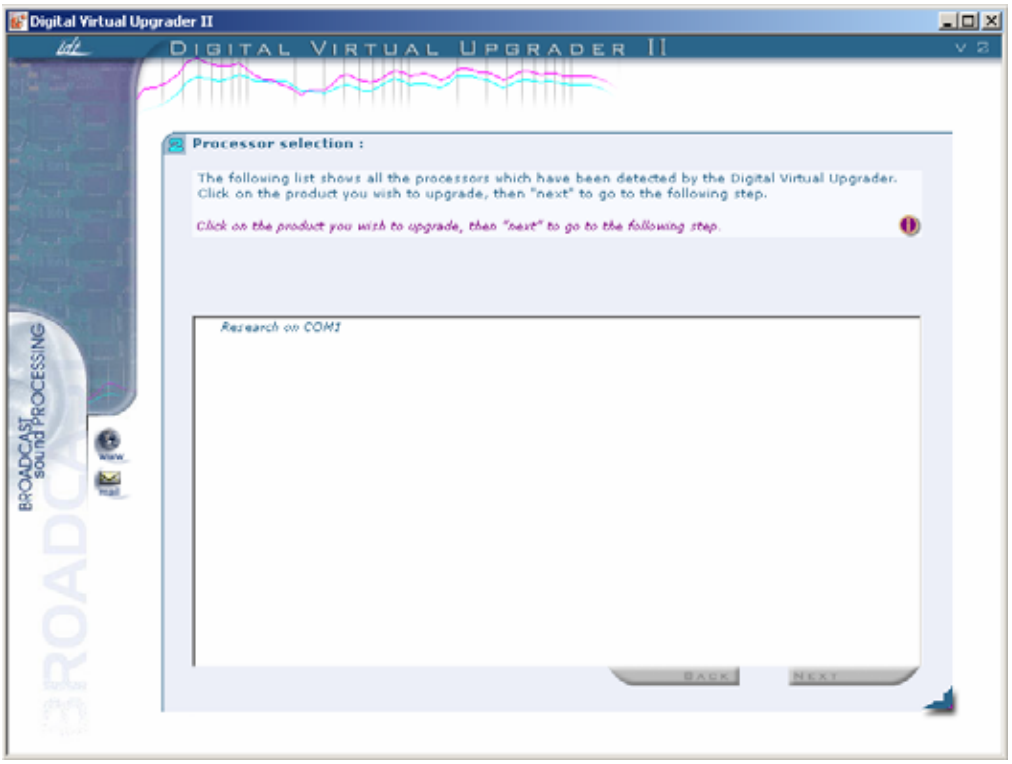
Click this icon to launch the upgrade process of your processor.

The following Window will appear;

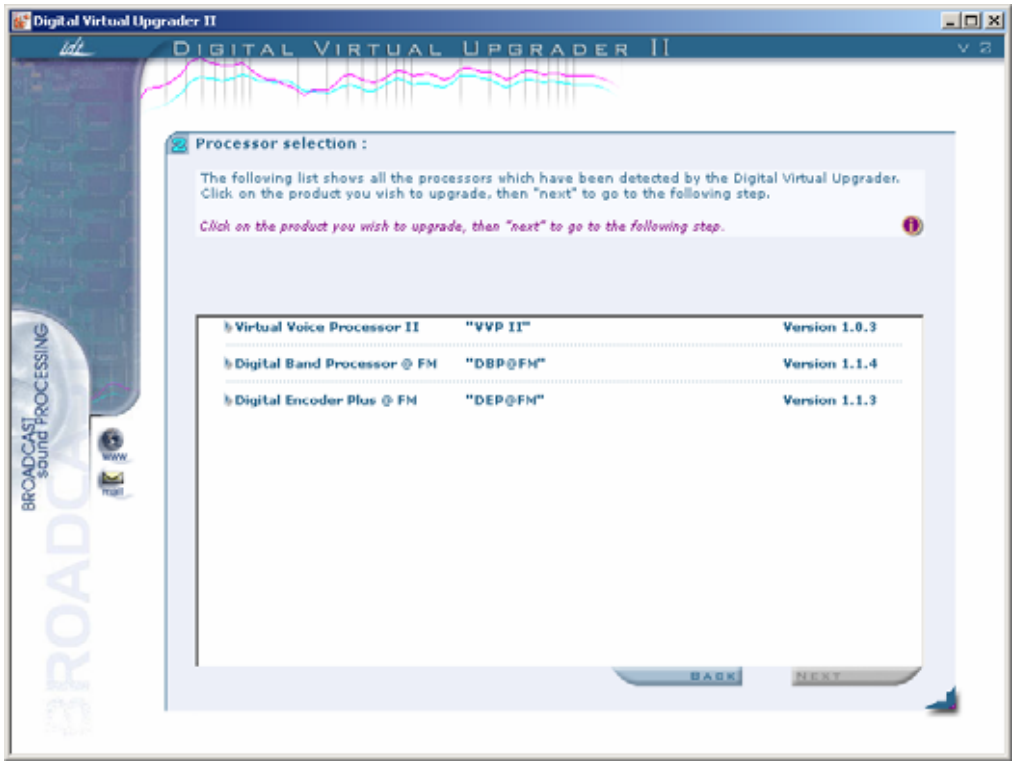
Digital Virtual Upgrader II
DIGITAL VIRTUAL UPGRADER II
V2
Processor upgrade search :
Welcome to the Digital Virtual Upgrader, this tool is for updating your processor. As you do know all of our products are able to evolve, the Digital Virtual Upgrader is the technology's latest passport.
Warning : As you do know, the processor updating is a delicate step, everything has been done in order to help you and secure this process. Do not rush, take the time to read all the information that are destinated to you. You will now be guided step by step, just follow the guide !
In the first step, you will select the wanted connection to be used in order to upgrade your processor. For the moment there is only the serial port that can be used, but tomorrow you will be able to upgrade through Modem or TCP/IP.
Click on the serial port button to start the research of the processors that are connected to your serial ports.
BROADCAST sound PROCESSING
Modem Connection
TCP/IP Connection
Serial Port Connection

Click the « serial port connection » (the other connection options are 'faded' and will be available later).

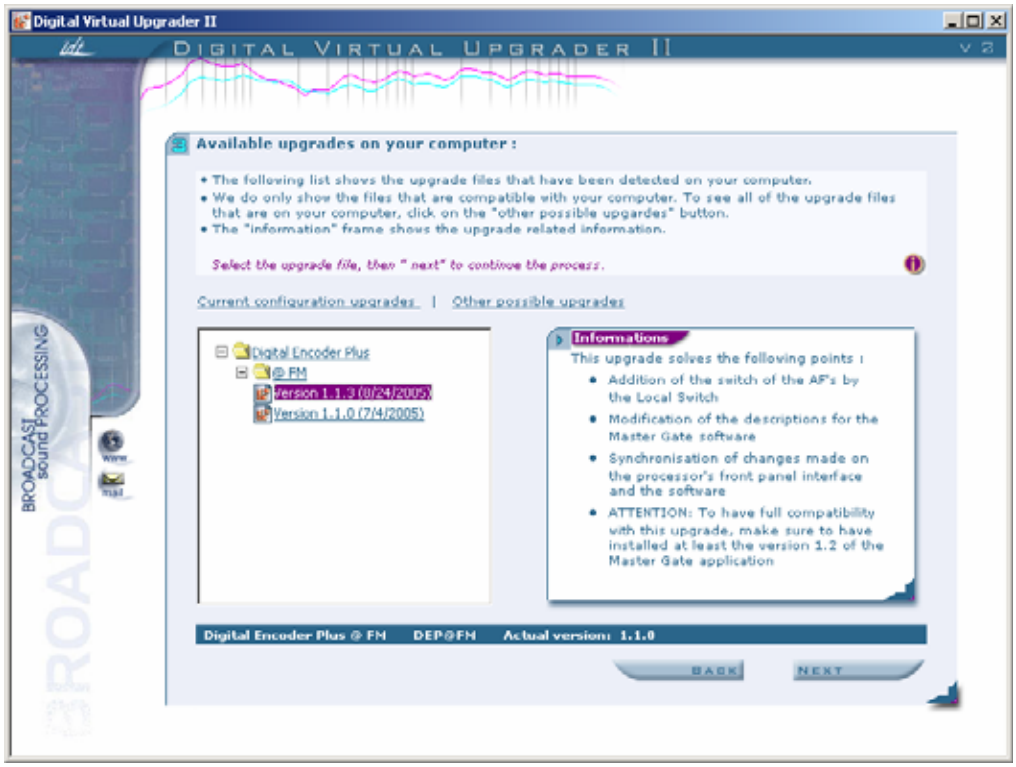
As when you launch the Master Gate the programme will scan all the serial ports.


Digital Virtual Upgrader II
DIGITAL VIRTUAL UPGRADER II
v 2
Processor selection :
The following list shows all the processors which have been detected by the Digital Virtual Upgrader.
Click on the product you wish to upgrade, then "next" to go to the following step.
Click on the product you wish to upgrade, then "next" to go to the following step.
Research on COM1
BACK
NEXT
BROADCAST sound PROCESSING

Once the search has been finished the programme will display the various processors you can upgrade.

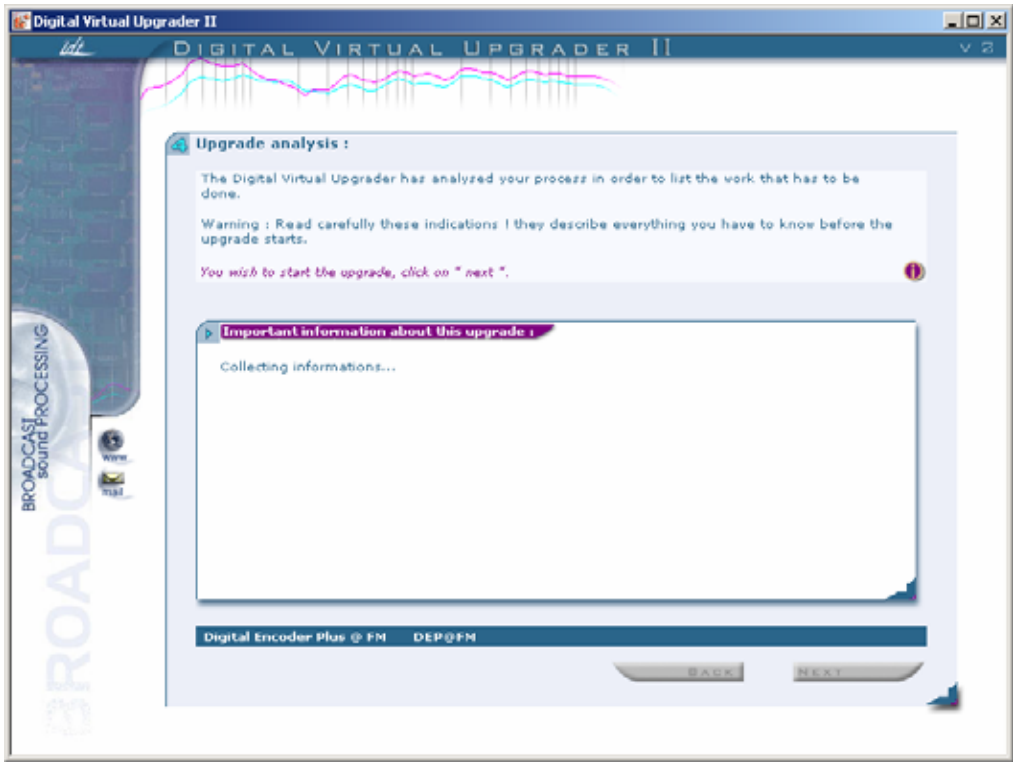

Digital Virtual Upgrader II
DIGITAL VIRTUAL UPGRADER II
v 2
Processor selection :
The following list shows all the processors which have been detected by the Digital Virtual Upgrader.
Click on the product you wish to upgrade, then "next" to go to the following step.
Click on the product you wish to upgrade, then "next" to go to the following step.
Virtual Voice Processor II "VVP II" Version 1.0.3
Digital Band Processor @ FM "DBP@FM" Version 1.1.4
Digital Encoder Plus @ FM "DEP@FM" Version 1.1.3
BACK
NEXT
BROADCAST sound PROCESSING

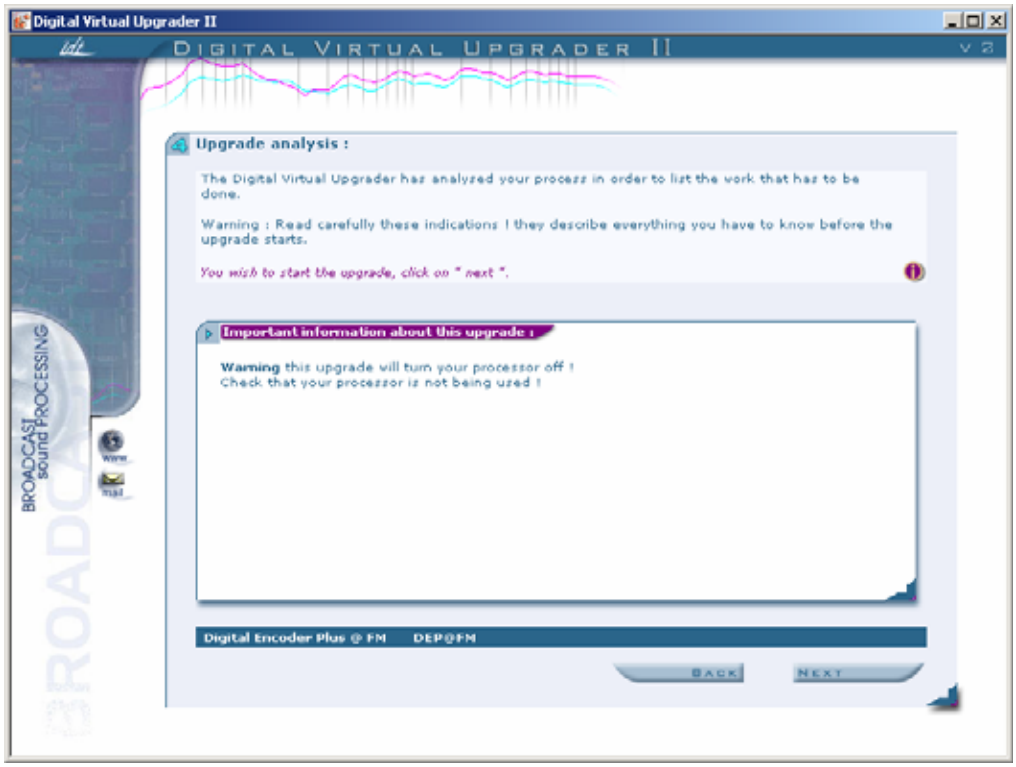
Select the processor to upgrade then click next:


Digital Virtual Upgrader II
DIGITAL VIRTUAL UPGRADER II
v 2
Available upgrades on your computer :
• The following list shows the upgrade files that have been detected on your computer.
• We do only show the files that are compatible with your computer. To see all of the upgrade files that are on your computer, click on the "other possible upgardes" button.
• The "information" frame shows the upgrade related information.
Select the upgrade file, then " next" to continue the process.
Current configuration upgrades | Other possible upgrades
Digital Encoder Plus
@ FM
Version 1.1.3 (8/24/2005)
Version 1.1.0 (7/4/2005)
Informations
This upgrade solves the following points :
• Addition of the switch of the AF's by the Local Switch
• Modification of the descriptions for the Master Gate software
• Synchronisation of changes made on the processor's front panel interface and the software
• ATTENTION: To have full compatibility with this upgrade, make sure to have installed at least the version 1.2 of the Master Gate application
Digital Encoder Plus @ FM DEP@FM Actual version: 1.1.0
BACK
NEXT
BROADCAST sound PROCESSING

The programme will then display the various files available on your processor to be upgraded. By selecting a file you will see, in the information window to the right, the corrections that have been brought by this upgrade.

Once the right file has been selected click next.
The programme will then analyse your processor for the upgrade.

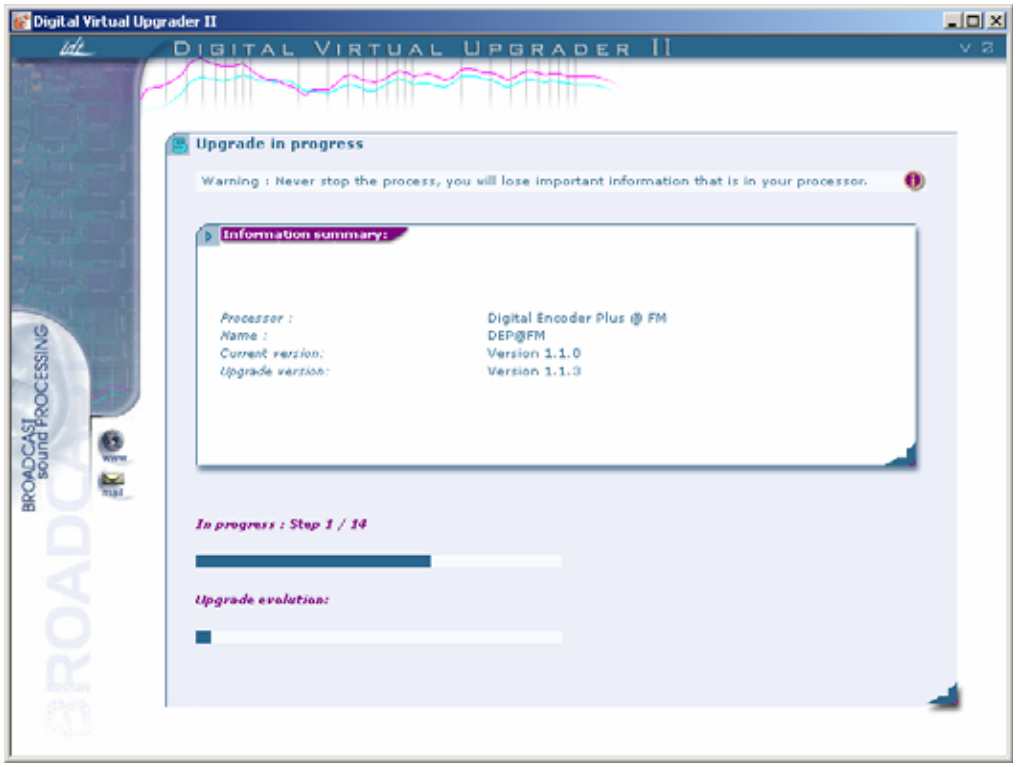

Digital Virtual Upgrader II
DIGITAL VIRTUAL UPGRADER II
v 2
Upgrade analysis :
The Digital Virtual Upgrader has analyzed your process in order to list the work that has to be done.
Warning : Read carefully these indications ! they describe everything you have to know before the upgrade starts.
You wish to start the upgrade, click on " next ".
Important information about this upgrade :
Collecting informations...
Digital Encoder Plus @ FM DEP@FM
BACK
NEXT
BROADCAST sound PROCESSING


Digital Virtual Upgrader II
DIGITAL VIRTUAL UPGRADER II
v 2
Upgrade analysis :
The Digital Virtual Upgrader has analysed your process in order to list the work that has to be done.
Warning : Read carefully these indications ! they describe everything you have to know before the upgrade starts.
You wish to start the upgrade, click on " next ".
Important information about this upgrade :
Warning this upgrade will turn your processor off !
Check that your processor is not being used !
Digital Encoder Plus @ FM DEP@FM
BACK
NEXT
BROADCAST sound PROCESSING

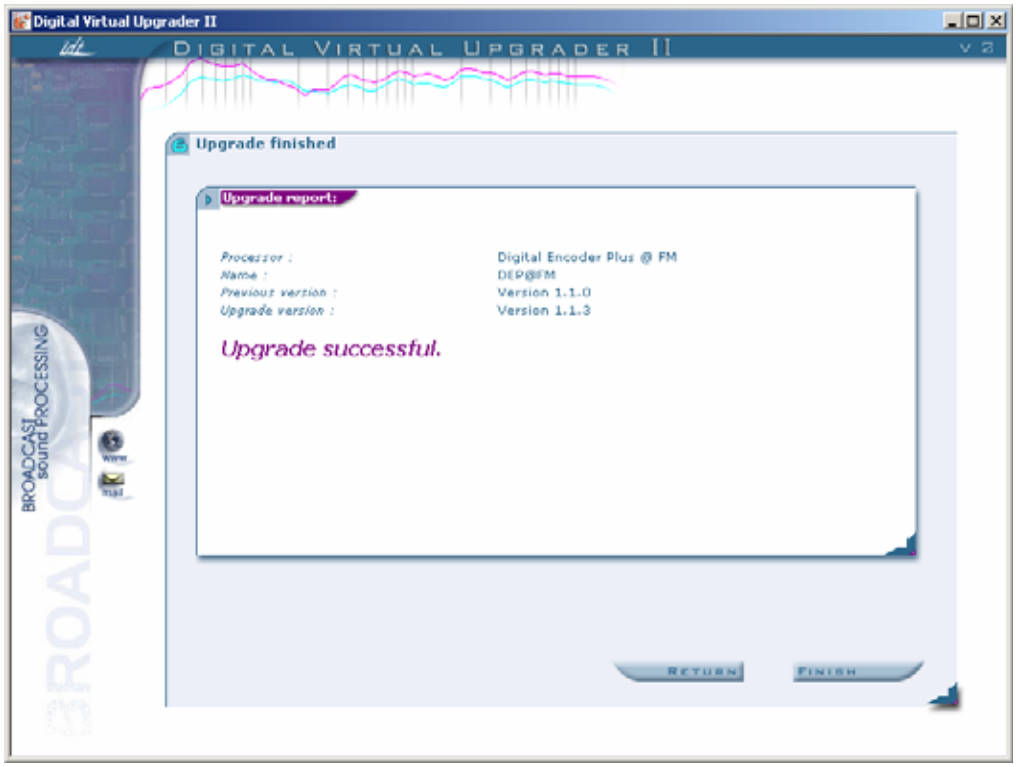
The Upgrader will display the information concerning the progression of the upgrade.

NB: Most of the upgrades include the reprogramming of the components of the unit. There will be a cut in the audio during the upgrade. Make sure, then, that your processor is not on air while it is being upgraded.
The upgrades also have an effect on the firmware of the unit and will delete all the data stored in the processor. IDT Sound Processing Corporation has tried, as much as possible, to maintain the compatibility of presets between 2 versions but this is not always possible. We, therefore, strongly recommend you test the presets created before putting them on air.

Click next if you accept the warnings displayed.



The programme will then undertake the operations requested. This process can take up to 10 minutes depending on the number of operations and the power of your PC.



If the software does not display this window then close down and restart your processor then start the process from the beginning. Should the operation fail again call the IDT Sound Processing Corporation Hotline immediately.

5. IP Upgrader

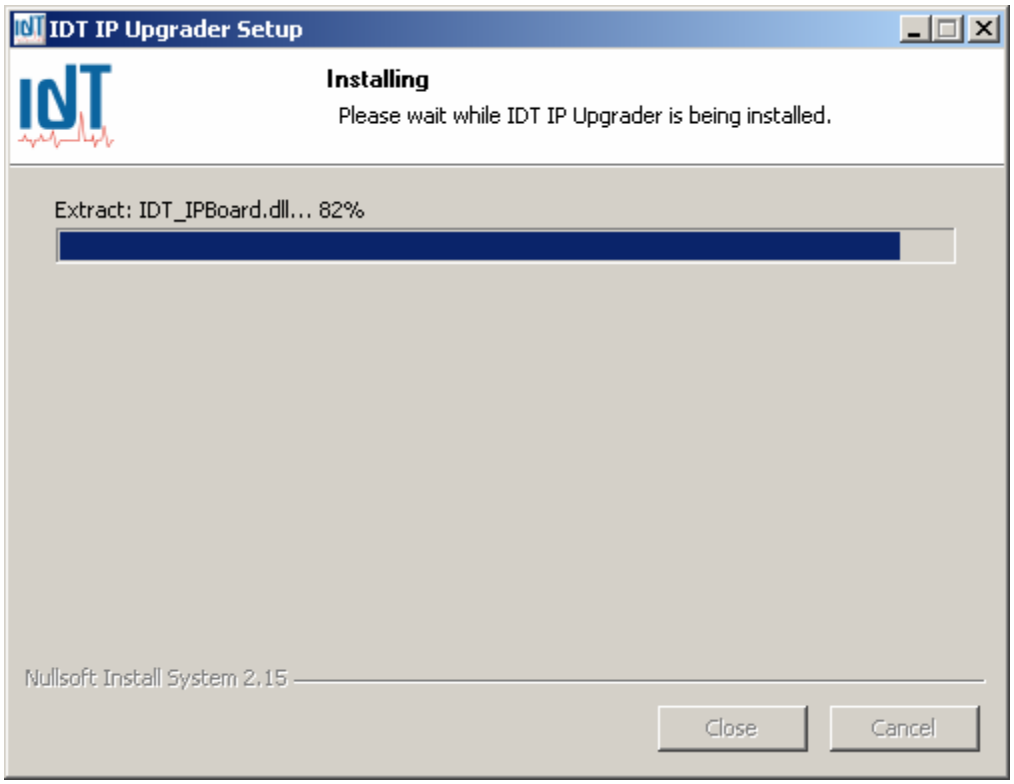
The « IP Upgrader » software has been specially designed to aid the upgrading of the IP board from the IDT Sound Processing Corporation.

This software is included in the standard installation programme which has been delivered with your unit. An icon is created in the start up menu « programs, IDT Sound Processing, Tools ».

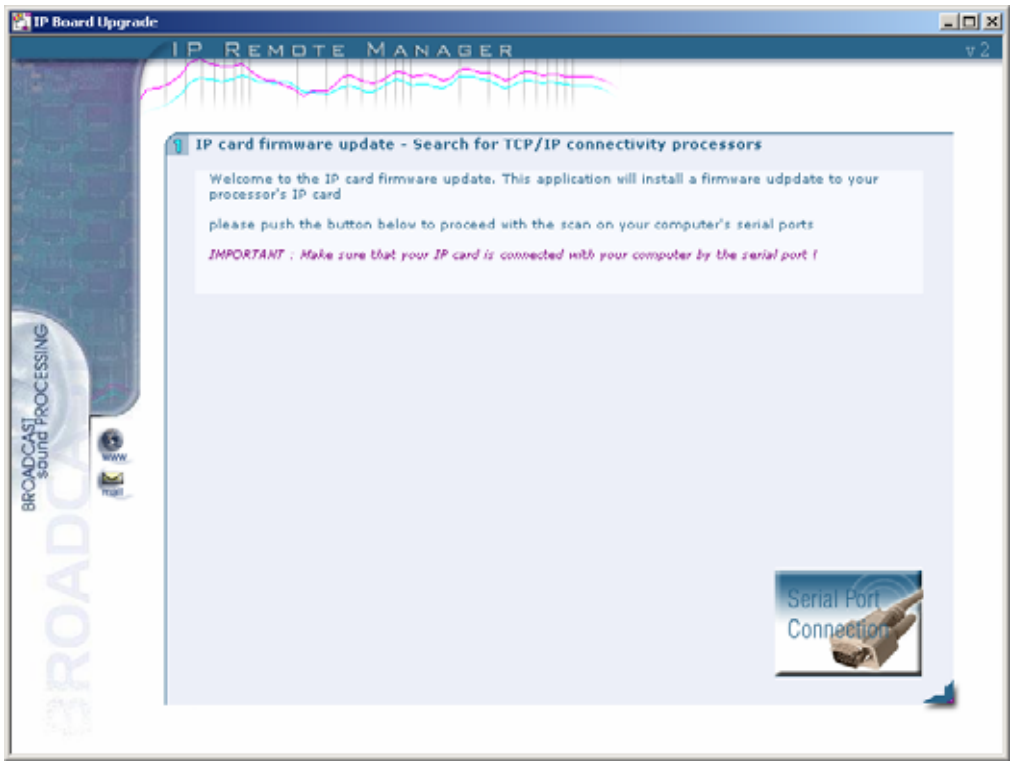
To make this update, you have to use the connector RS 232 of the IP board.

Click this icon to begin the process of update of your IP BOARD.

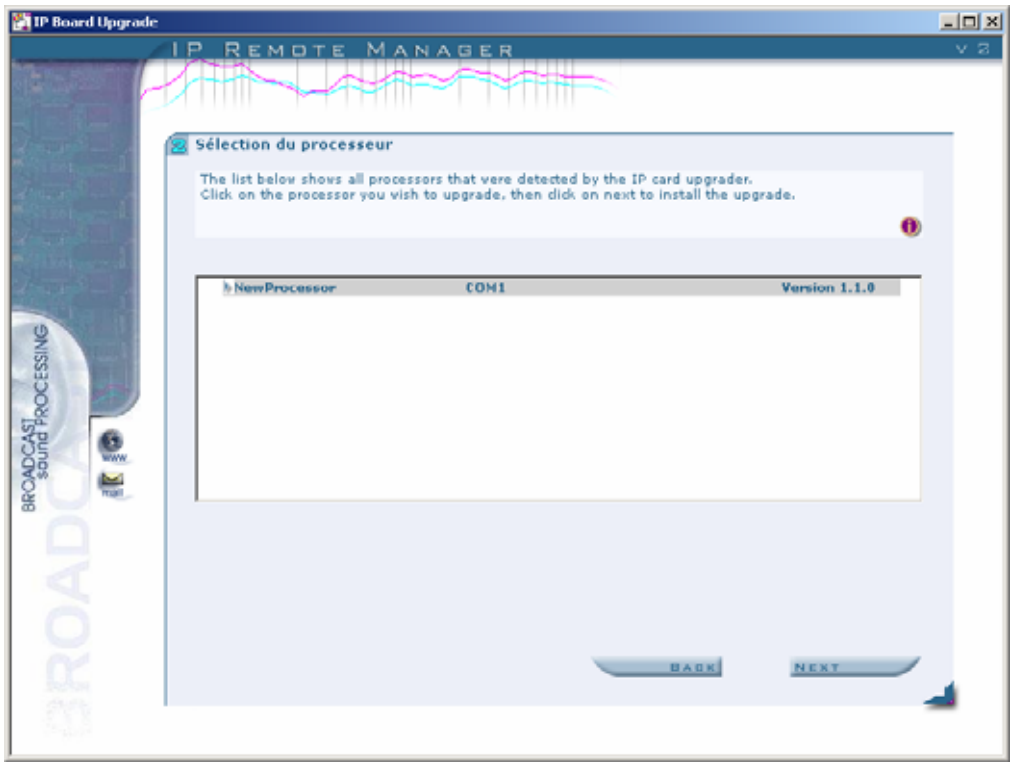
The following Window will appear :



The ended installation the following screen displays.

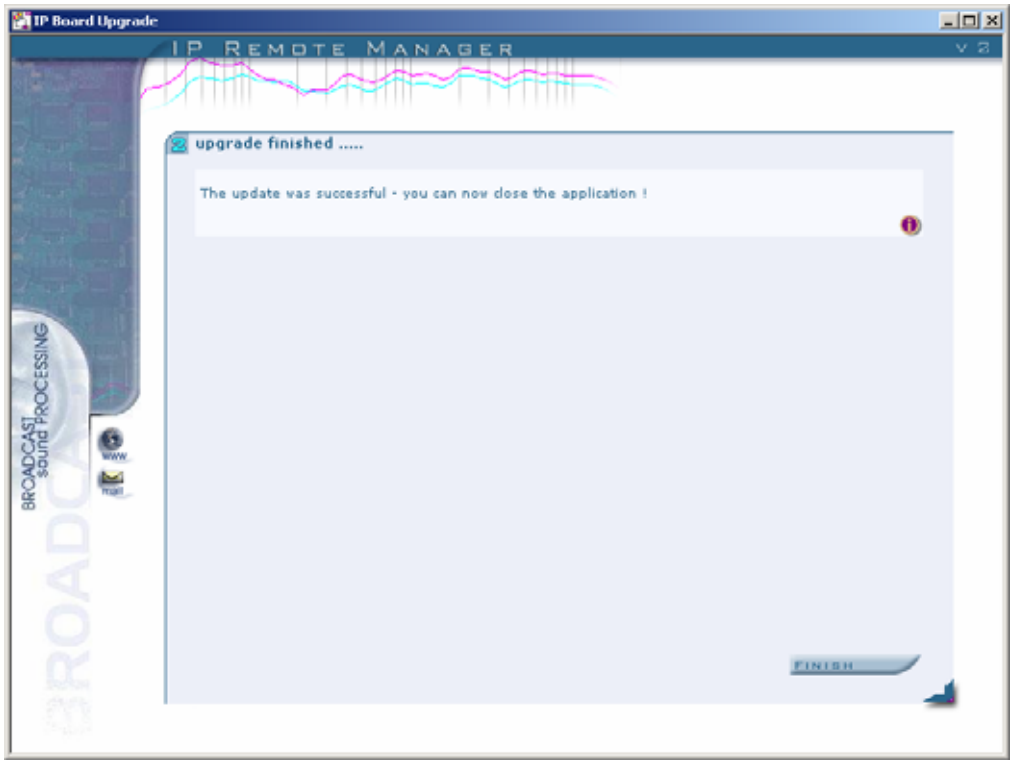

IP Board Upgrade
IP REMOTE MANAGER
v2
IP card firmware update - Search for TCP/IP connectivity processors
Welcome to the IP card firmware update. This application will install a firmware udpdate to your processor's IP card
please push the button below to proceed with the scan on your computer's serial ports
IMPORTANT : Make sure that your IP card is connected with your computer by the serial port !
Serial Port Connection
BROADCAST sound PROCESSING

Click the icon " Serial Port Connection " the following screen displays.

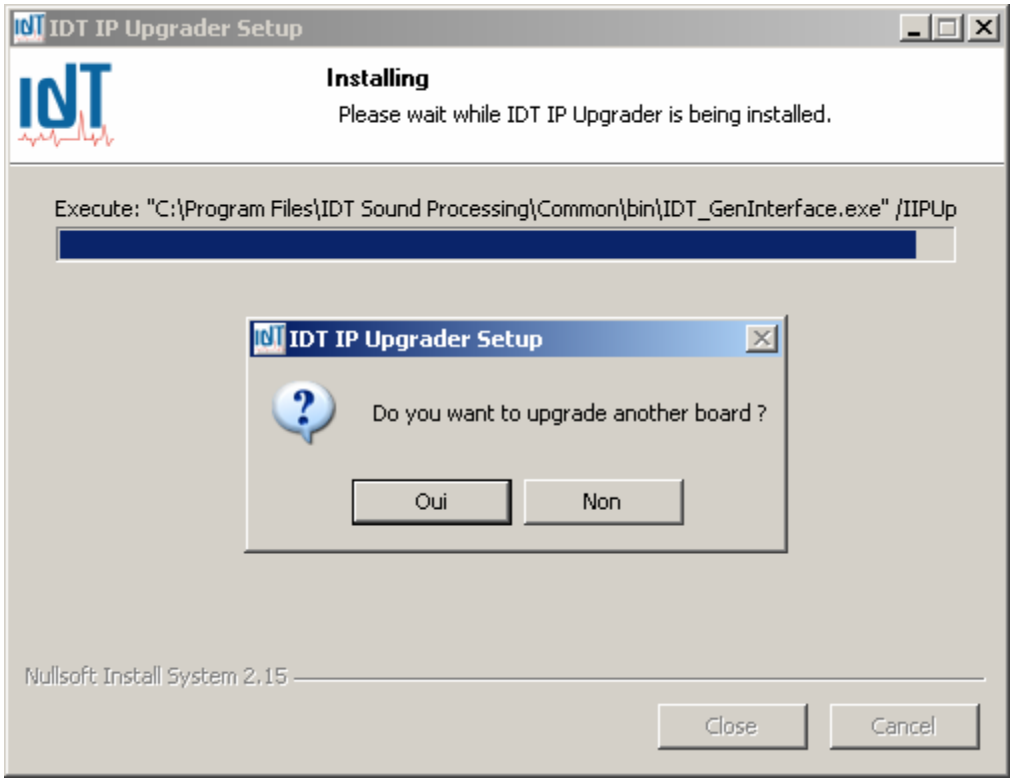

IP Board Upgrade
IP REMOTE MANAGER
v2
Sélection du processeur
The list below shows all processors that were detected by the IP card upgrader.
Click on the processor you wish to upgrade, then click on next to install the upgrade.
NewProcessor
COM1
Version 1.1.0
BACK
NEXT
BROADCAST sound PROCESSING

Select the processor to be updated and click on “ Next “ button.

When the IP board was updated the following screen displays.


IP Board Upgrade
IP REMOTE MANAGER
upgrade finished .....
The update was successful - you can now close the application !
FINISH

Click "Finish" then on "Yes" or "No" according to if you have another card IP to be updated.



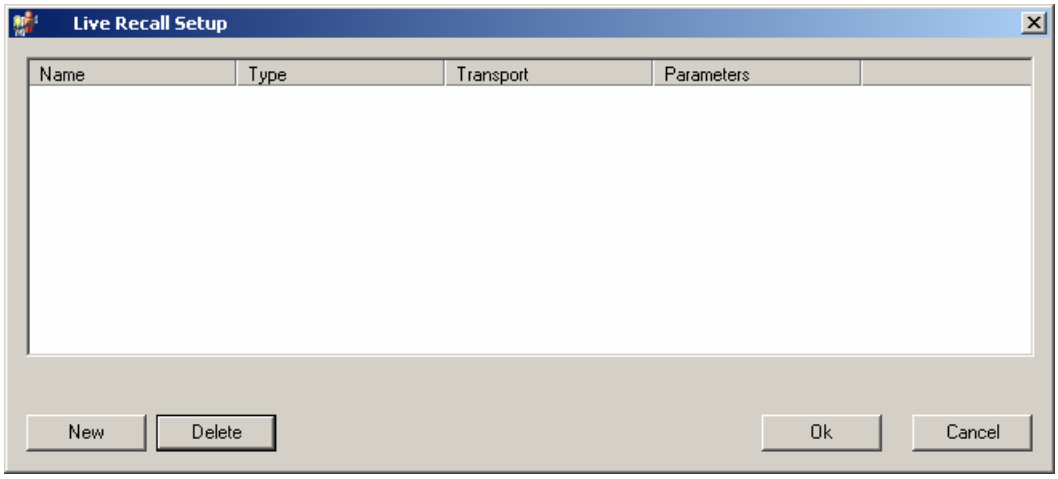
6. Live Recall

The Live Recall is a programme utility allowing you to switch from far the presets of your 1U processors by a serial RS 232 or TCP / IP connection.

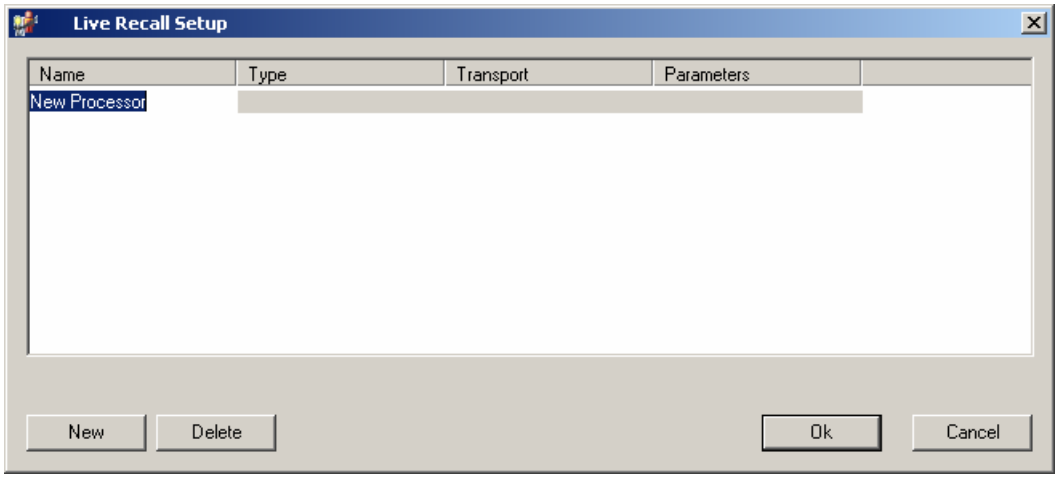
This software is included in the standard installation programme which has been delivered with your unit. An icon is created in the start up menu « programs, IDT Sound Processing, Tools ».

Addressing of the processor

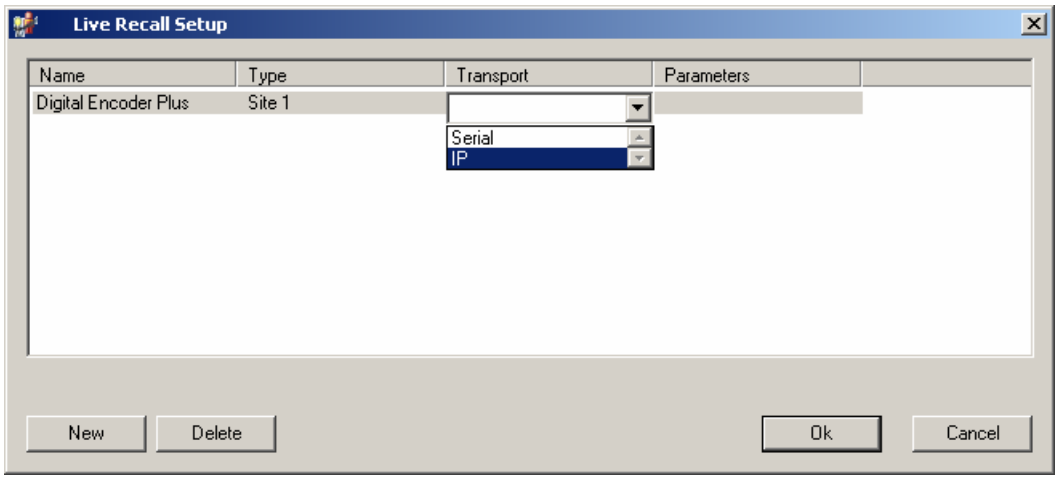
Launch the application « Live Recall Setup » the following screen displays.



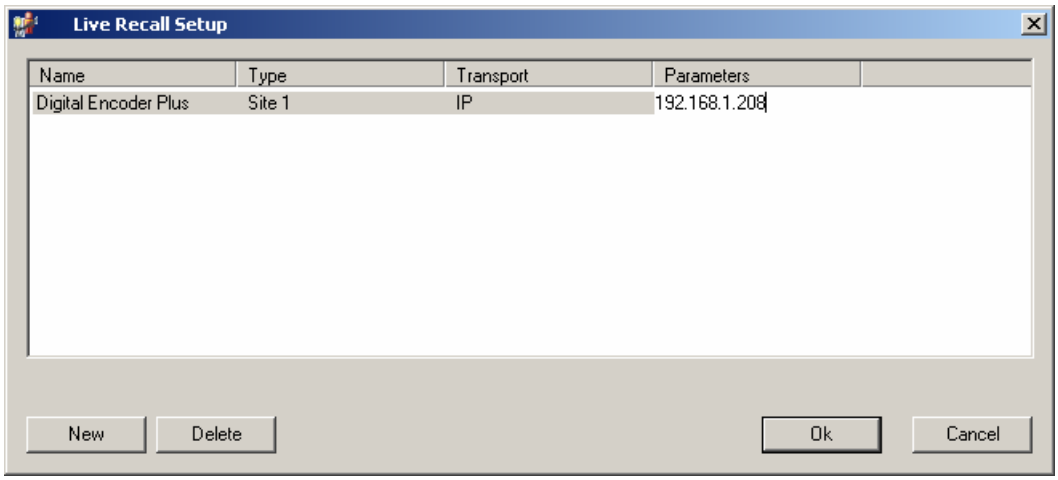
Click on « New » to add the processor to be used, the following screen displays.



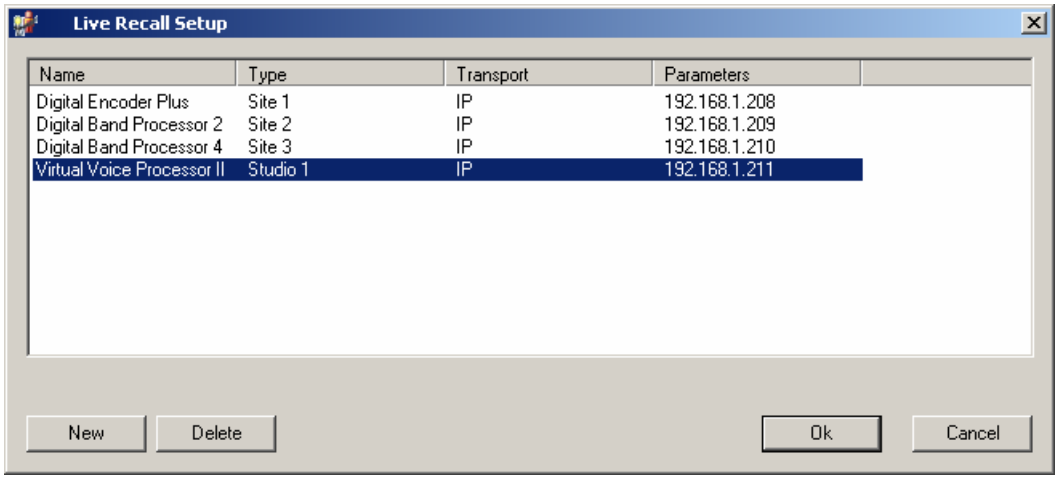
Click the field « Name » New processor by default and enter the Name of the processor to be used. In the type field you can indicate for example a location.



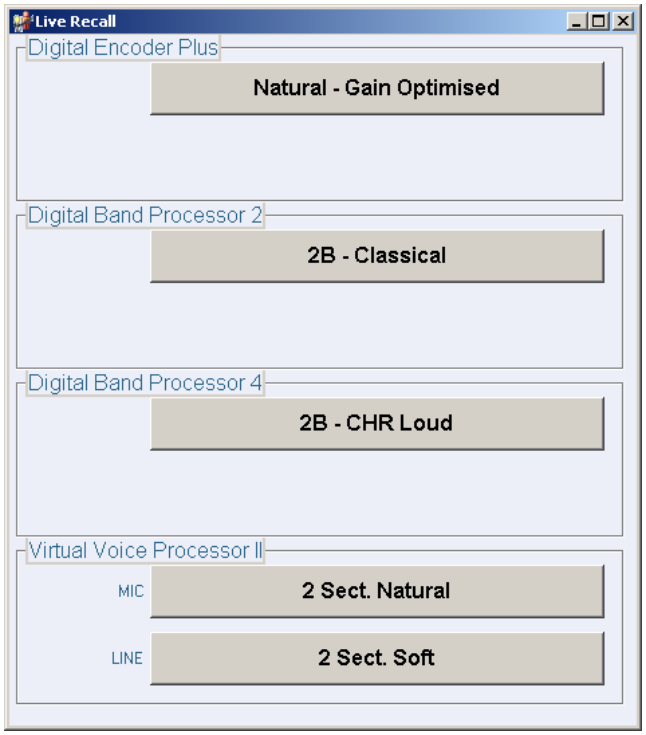
In the field « Transport » select the type of connection to be used. In the example above « IP ». Then in the field « Parameters » enter the IP address of the processor to be used.



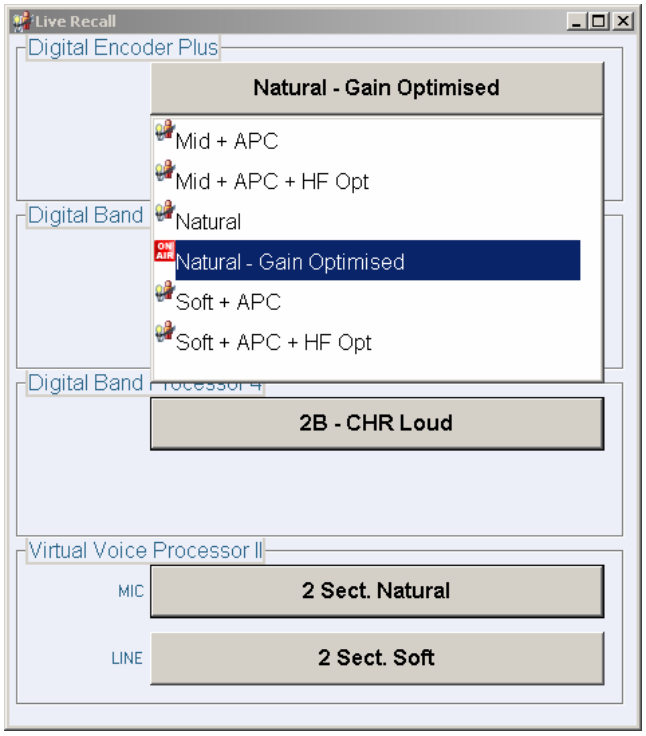
Make the same thing to add others processors then click on « Ok » to validate the parameters and leave the application Live Recall Setup.



Launch the application « Live Recall » the following screen displays.



A simple click on the field allows you to select the preset to use as shows in the screen below.



III - SETTINGS

III-1 – Quick Start Up

First launch of the software:

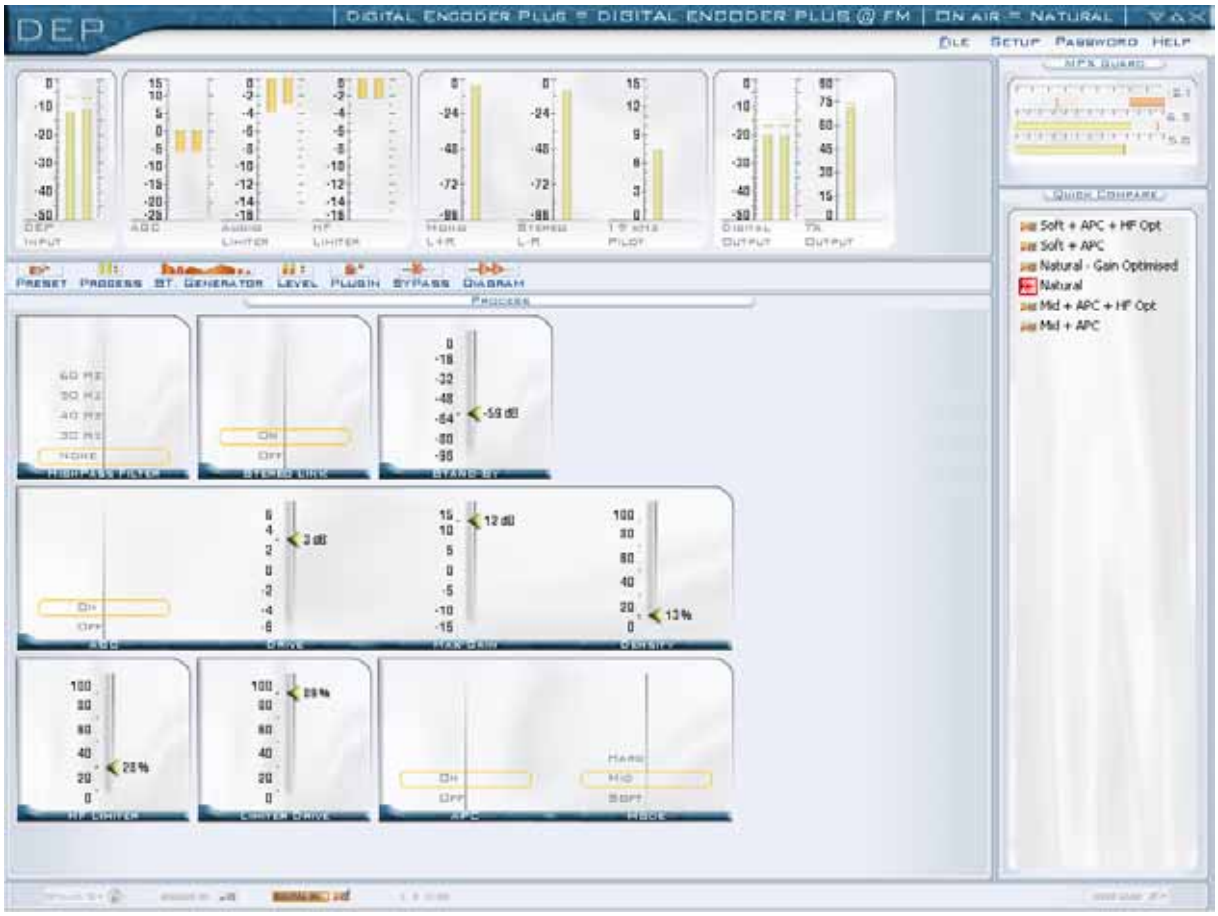
Once you have chosen the connection you want to use and the processor you want to link up to click its name.

The software will start with this Welcome Window;

If the time and date on your PC are not the same as the DEP the software will suggest synchronizing the 2.

Choose to put the DEP at the same time as the PC or not and ENTER

The main Window of the control software will appear.
Take a few minutes to get familiar with this window as it will be your companion throughout your work on the DEP.

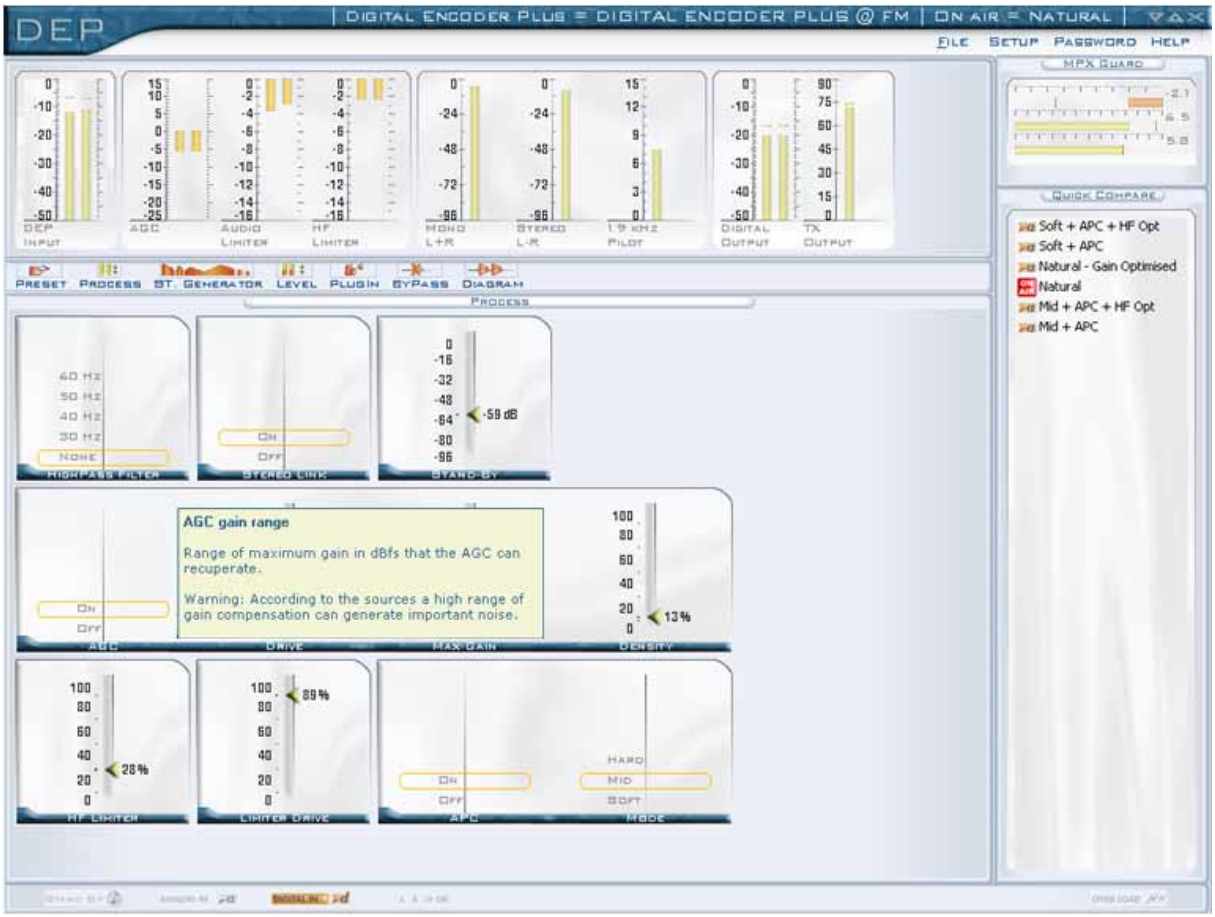


Here are the main aspects of the Control Window:

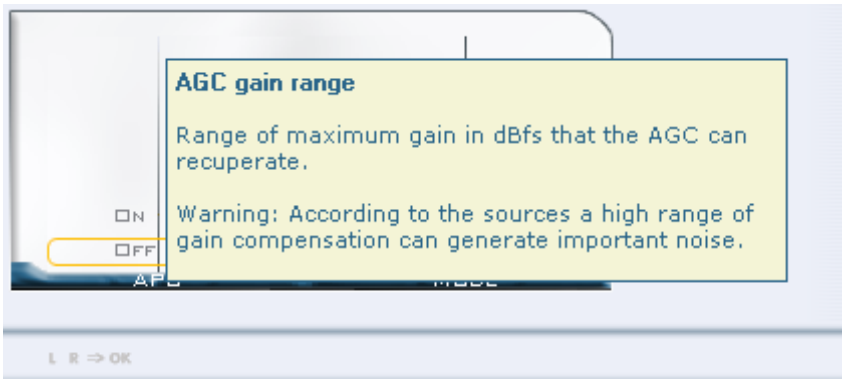
- Menu bar
- Vu-meters
- Icons
- Main Window
- State Bar
- Quick Compare and other screens to the right.

1. The Tools Tips

When you move your cursor over the titles of each function an information cursor will appear. By doing a right click you will obtain the information concerning the action and the function of the element selected.


DEP
DIGITAL ENCODER PLUS = DIGITAL ENCODER PLUS @ FM
ON AIR = NATURAL
FILE SETUP PASSWORD HELP
MPX GUARD
QUICK COMPARE
Soft + APC + HF Opt
Soft + APC
Natural - Gain Optimised
Natural
Mid + APC + HF Opt
Mid + APC
PRESET PROCESS BT. GENERATOR LEVEL PLUGIN BYPASS DIAGRAM
PROCESS
AGC gain range
Range of maximum gain in dBfs that the AGC can recuperate.
Warning: According to the sources a high range of gain compensation can generate important noise.
-59 dB
13%
28%
89%

A zoom on the AGC gain range function.


AGC gain range
Range of maximum gain in dBfs that the AGC can recuperate.
Warning: According to the sources a high range of gain compensation can generate important noise.
ON
OFF

2. Menu bar

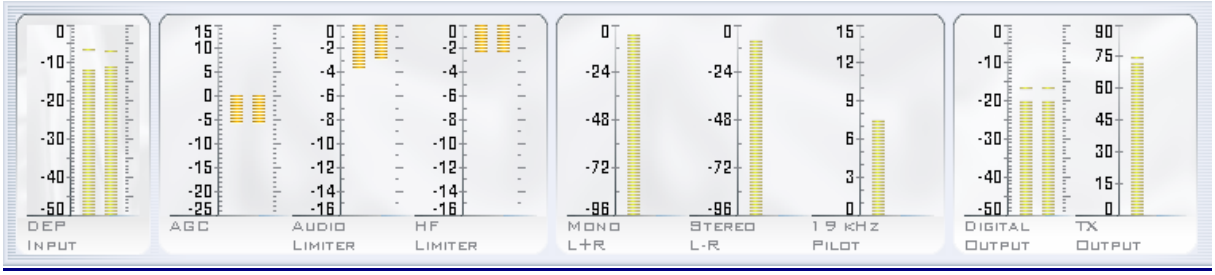
To ensure optimized ergonomics all the main accesses have been centralized in the central icon bar. The menu bar regroups secondary accesses which are less frequently required by the user. The main accesses are the following:

- **File**: Save and retrieving presets, the calibration, general parameters and full back-up of the equipment. Exiting the software.
- **Set Up**: Name of the processor, Phase Scrambler, Auto Back Up, Configuration AES/EBU, Advanced settings (AES Errors, Compensation Sub, Calibration, signal generator), interne clock, Configuration of the local switches/GPIO.
- **Password** for manage the various accesses to your processor (User, Presets, View only and Broadcaster).
- **Help**: Loading plug-ins, Loading a license, About (information on the processor).

System Informations :

This information is available from the Master Gate software in the menu "HELP" About.

3. The vu-meters



The top part of the screen is dedicated to the vu-meters. Everything has been done to guarantee an optimized vision so, from left to right, you can view, instantly the following parameters:

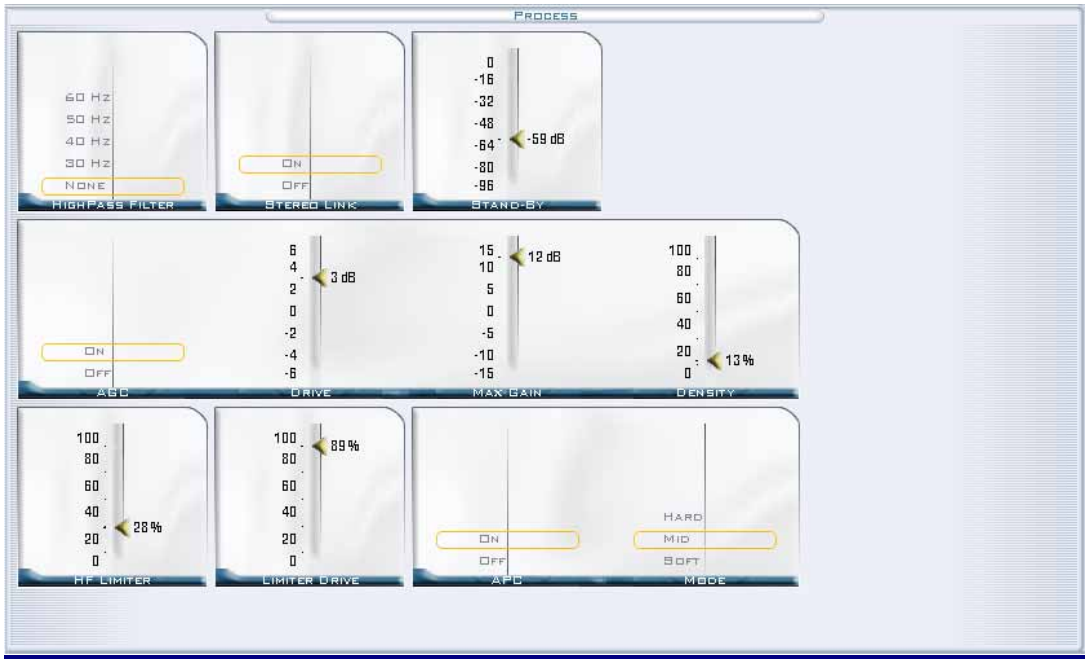
- "**DEP Input**"
- "**Input AGC**"
- "**Audio Limiter**"
- **"HF Limiter"**
- Mono modulation "**L + R**"
- Stereo modulation **L - R**"
- Pilot Level "**19 kHz**"
- "**Digital Output**" level
- "**TX Output**» level

4. Central Icon bar

The central icon bar allows access to the main control screens of the DEP. Located in the centre optimised ergonomics are guaranteed;

- **Preset:** Access to the "Factory Presets" and "User Presets».
- **Process**: Access to the heart of processing and allows you to sculpt your sound.
- **St Generator:** Access to the parameters of the stereo coder.
- **Level:** Access **to** all the I/O levels of the **DEP.**
- **Plug In** : Access to the various plug-ins you have inserted in the **DEP**.
- **Bypass**: Access the By-pass of each function of the **DEP.**
- **Diagram**: Via a diagram, you can visualize, assign and fix the parameters of the pre-emph, de-emph and the position of the phones.

5. The central window



Located just below the main icon bar, the central window displays the various screens accessible and regulated by the icon bar. It's here that you will take full control of all the parameters of the **DEP**. Below the **Process** window of the **DEP**.

6. State bar

Located just below the main window the state bar displays, permanently, essential information and allows you 2 instant access commands.

The displays:

- **Stand By:** Lit if the processor is in standby mode. Setting the level of the standby is accessible from « Key tools ».
- **Analog in:** Lit if the active preset is using an analogue input.
- **Digital in:** Lit if the active preset is using the AES input.
- **Overload**: An overload can create distortion so this is your protection.

7. The other tags

The **MPX Guard Window**

This window is only active when the plug-in has been loaded.
Refer to the section that deals with this plug-in.

Quick Compare Window

Allows the rapid switch between your presets and for you to compare between them.

III-2 – The first settings

The first thing to do is to set the levels to correspond to you transmitter and to the standards applied in your country.

1. Setting the levels

WARNING ! ! !

Do not make these modifications while the DEP is linked to a transmitter. Make the settings with the TX1&2 unplugged or you could have over modulation.

- **Setting the TX level**

Click the « Level » icon in the central bar.
Adjust the reference levels of TX1 and TX2

Then adjust the TX output level depending on the legal modulation levels of your country (generally 75 KHz).

IDT understood that you could need to parameter the second TX output to send the reference 19 KHz to an RDS encoder, for example. You can, thus choose a back-up multiplex output with this option.

If these results do not correspond to the levels measured by external equipment consult « Calibration of your processor ».

- **Setting the analogue and digital levels**

Still in the « Level » window, adjust the analogue and digital I/O levels to avoid any distortion of the sound before processing.

If your DEP is in a processing chain and that you are using the analogue or digital outputs of your processor don't forget to set the output levels depending on the equipment your DEP is linked to. .

In this way you will avoid any peaks into or out of the DEP.

2. The Presets

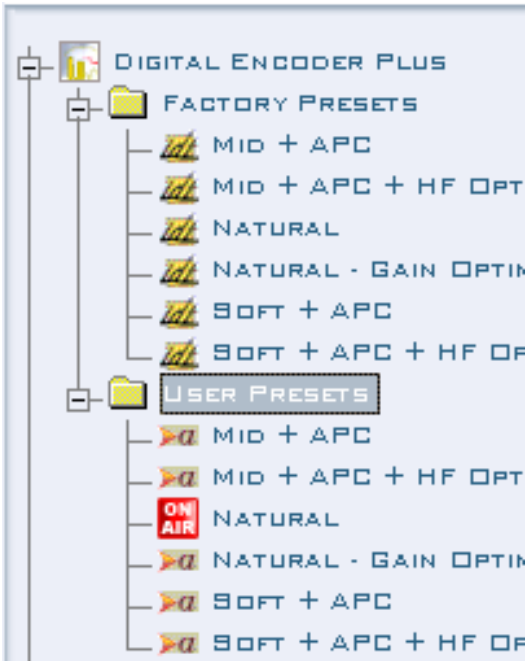
The **Digital Encoder Plus @ FM** is delivered with a list of **Factory Presets**. These presets constitute the departure point for your sound settings and correspond to different radio programme categories. You can go, quite simply to the category that corresponds to your programme type but we strongly advise or to go through the different categories of **Factory Presets** to have a full idea of what is on offer.

Processing on the **DEP @ FM** works on an upgradeable algorithmic platform that we call a **Layer.** Each Layer has a version number and a list of Factory Presets which correspond.

WARNING: as the product evolves there are new Factory Presets which will **always** refer to a version of layer even if we do all we can to ensure compatibility between the various layers.

The Preset explorer – Use

Just below the display of the vu-meters you will see the icon bar which allows access to each function. To access the Factory Presets click the **Preset** icon.
To the left you will see the explorer for the **DEP @ FM**.



At the top of the tree you will find 2 folders in the Digital Virtual Processor, **Factory Presets** and **User Presets**.

The Factory Presets Folder:
This folder contains all the Presets supplied by IDT. To avoid any confusion between the Factory Presets and the User Presets, we have identified them by different icons: **Factory Presets** with the logo IDT and an orange triangle for the User **Presets.**

The User Presets folder:
This folder can contain up to 60 Presets and is located directly in the memory of the **DEP @ FM**.

1. To load a Factory Preset into the User Presets folder:

There are 2 ways, Choose the one you prefer.

- Select the Preset you want to load from one of the **Factory Presets** folders

Drag and drop into **User Presets** or:

- Select the Preset you want to load from one of the **Factory Presets** folders

Click it and then **Copy**
Click the User Presets folder
Right click **PASTE**

2. To rename a User Preset :

When you load a Factory Preset in the list of User Presets it will keep its original name. Once it is in the list of User Presets you can rename it as you want. To do so proceed as follows:
Select the Preset you want to rename:
Right click and select **RENAME**
Type the name you want to give to your Preset

3. To delete a User Preset :

It is, of course, possible to delete a User Preset from the memory of the DEP:
Select the Preset you want to delete
Right click and **Delete**
You will be asked to click OK to Delete or Cancel

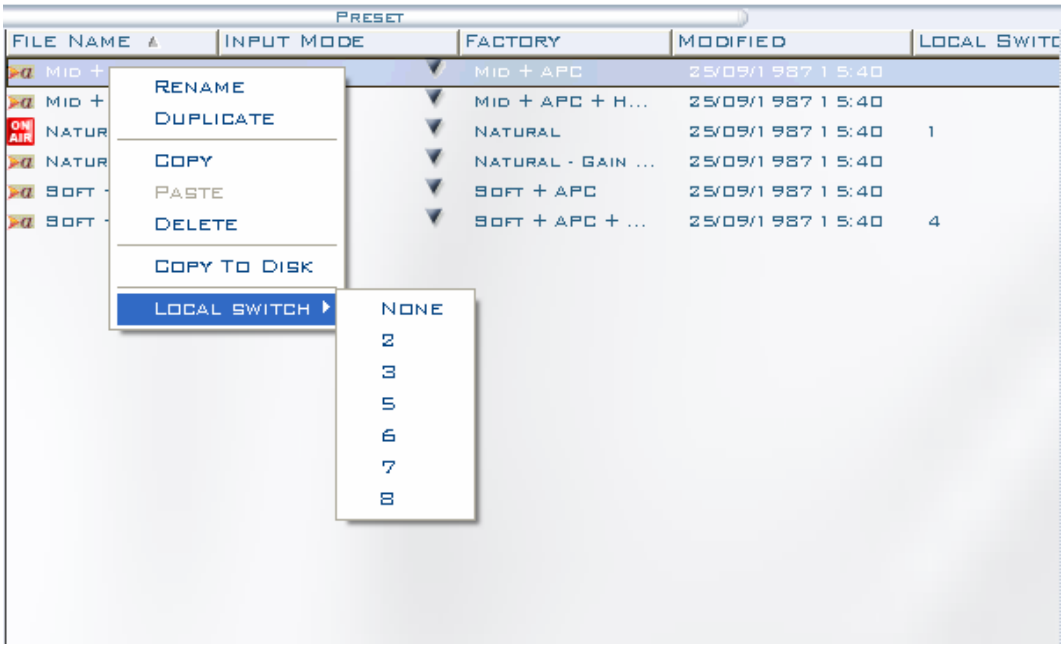
4. To put a User Preset ON AIR :

To put a User Preset ON AIR do the following:

Select the Preset you want to put on air.
Double click and the icon of the Preset will become . The Preset is now On Air

5. Basic rules for presets :

By a right click you can access a full menu:



By this menu you can rename your preset, make a copy (before modifying for example), copy to a clipboard (to paste elsewhere, on your Windows desktop for example,), delete it (unless it's On Air). You also have other functions « copy to disk », so you can copy it to a hard disk and the « Local Switch », so you can allocate a pin from the Local Switch / GPIO.

An arrow in the column « input mode » allows you, by a scrolling list, to allocate an analogue or digital input

Useful information; the latest modification or the Factory Preset of origin is also displayed.

III-3 - Calibration process

To ensure that standards are met and to conform to other equipment in your audio chain our processors can be calibrated.

This process is quite simple and will take just a few minutes of your time

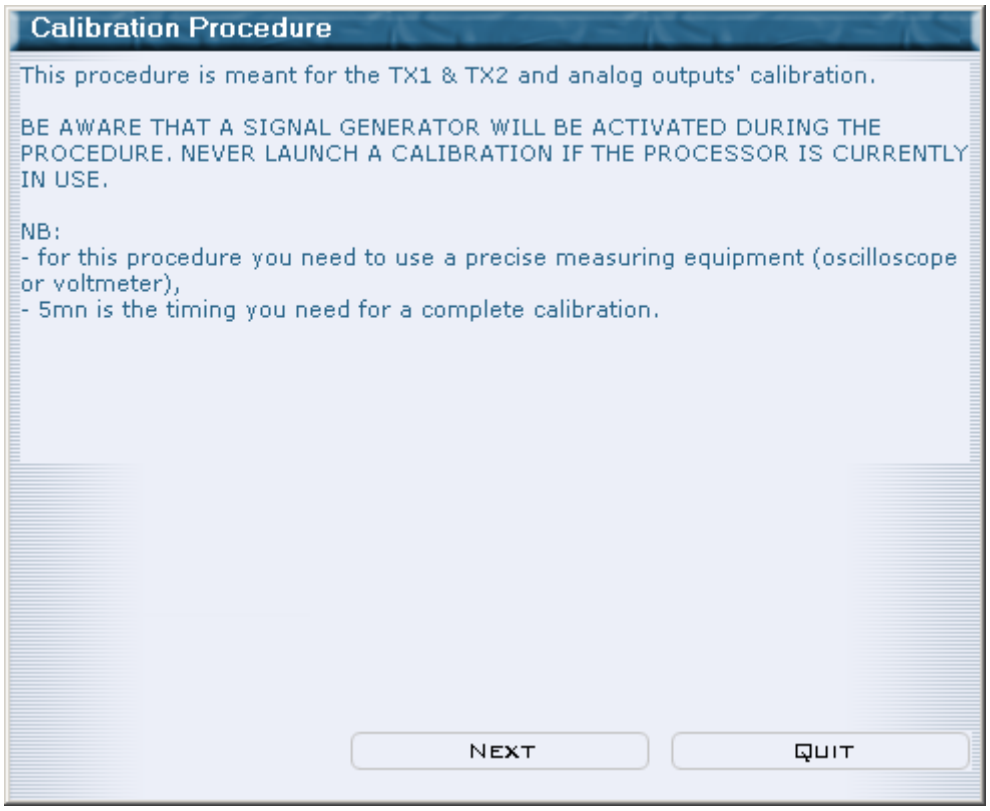
Calibration is advisable when there are measurement discrepancies, when the machine has not been used for some time or when there has been an electrical problem.

WARNING! This process will cut the audio signal and will replace it by a « sinus »! Don't start this ON AIR.

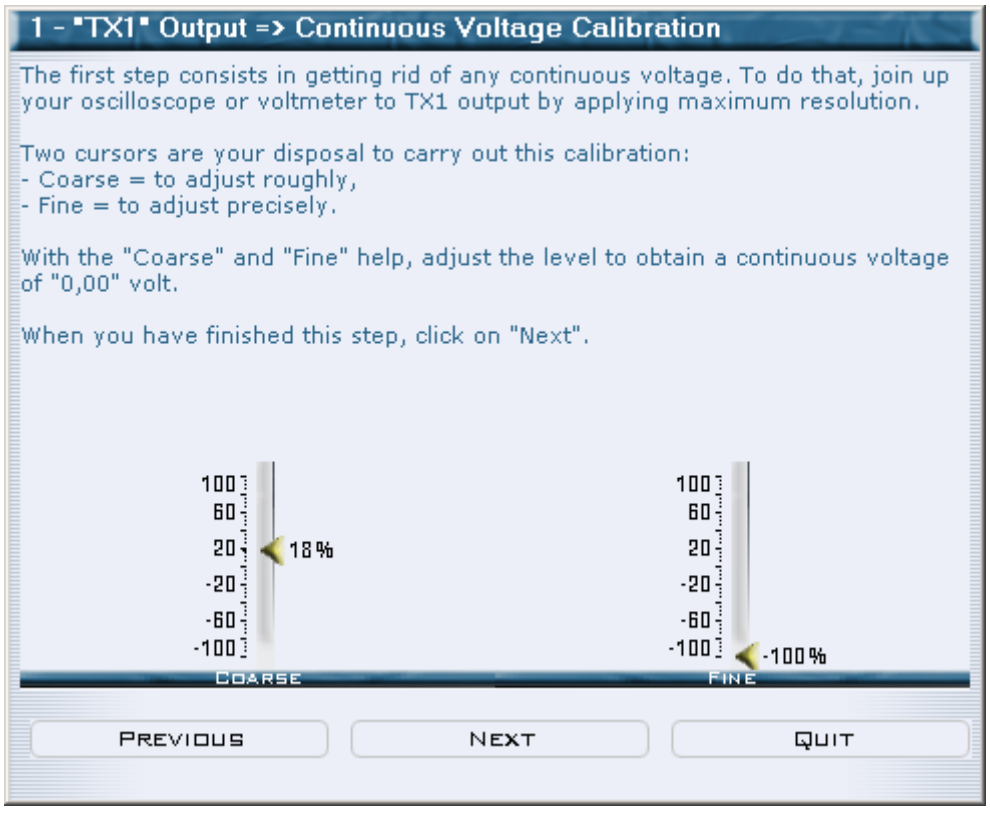
Start by clicking « Calibration process» in the «Advanced » sub-menu of the « Setup » menu.

A series of windows will appear to help you through the process.

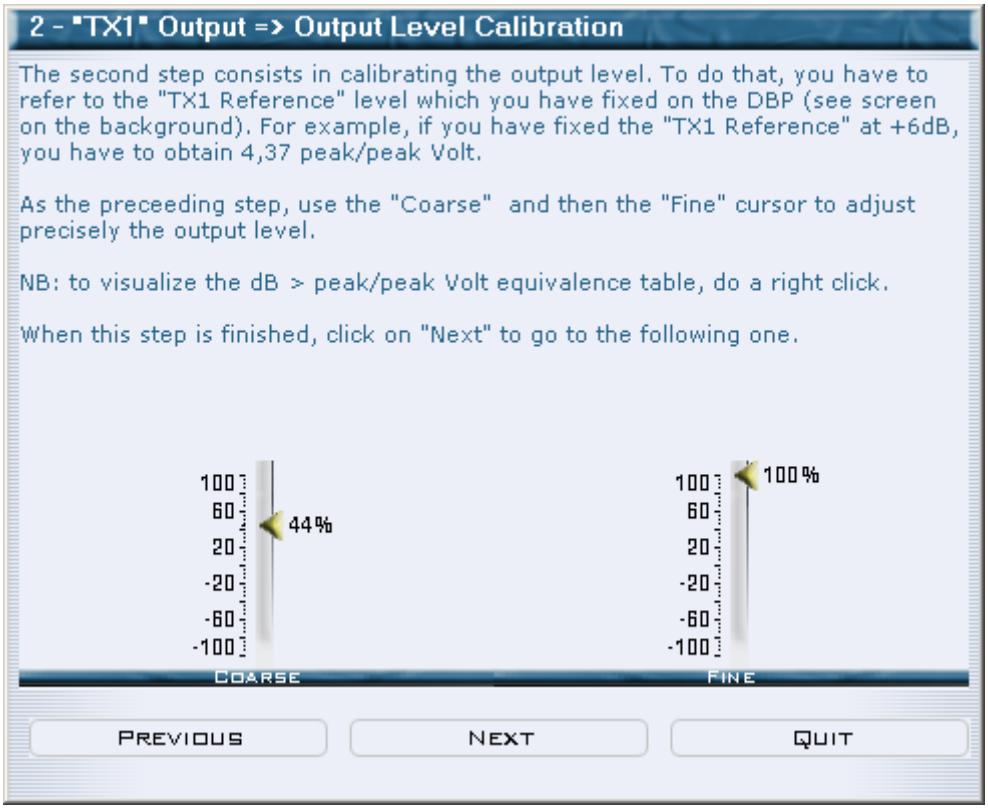
Before starting link up TX1 and TX2 to measurement equipment. The measurements can be in dBs, Volt peak to peak or in Volts.


Calibration Procedure
This procedure is meant for the TX1 & TX2 and analog outputs' calibration.
BE AWARE THAT A SIGNAL GENERATOR WILL BE ACTIVATED DURING THE PROCEDURE. NEVER LAUNCH A CALIBRATION IF THE PROCESSOR IS CURRENTLY IN USE.
NB:
- for this procedure you need to use a precise measuring equipment (oscilloscope or voltmeter),
- 5mn is the timing you need for a complete calibration.
NEXT
QUIT

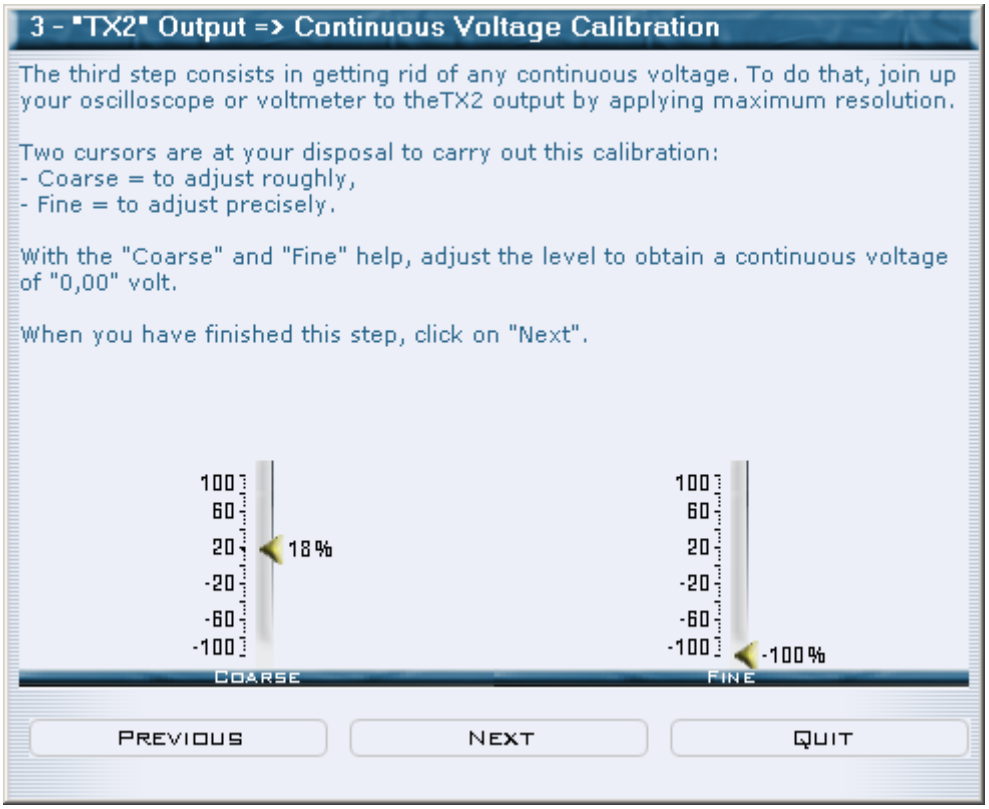
To calibrate the processor click « Next », and the next screen will appear.

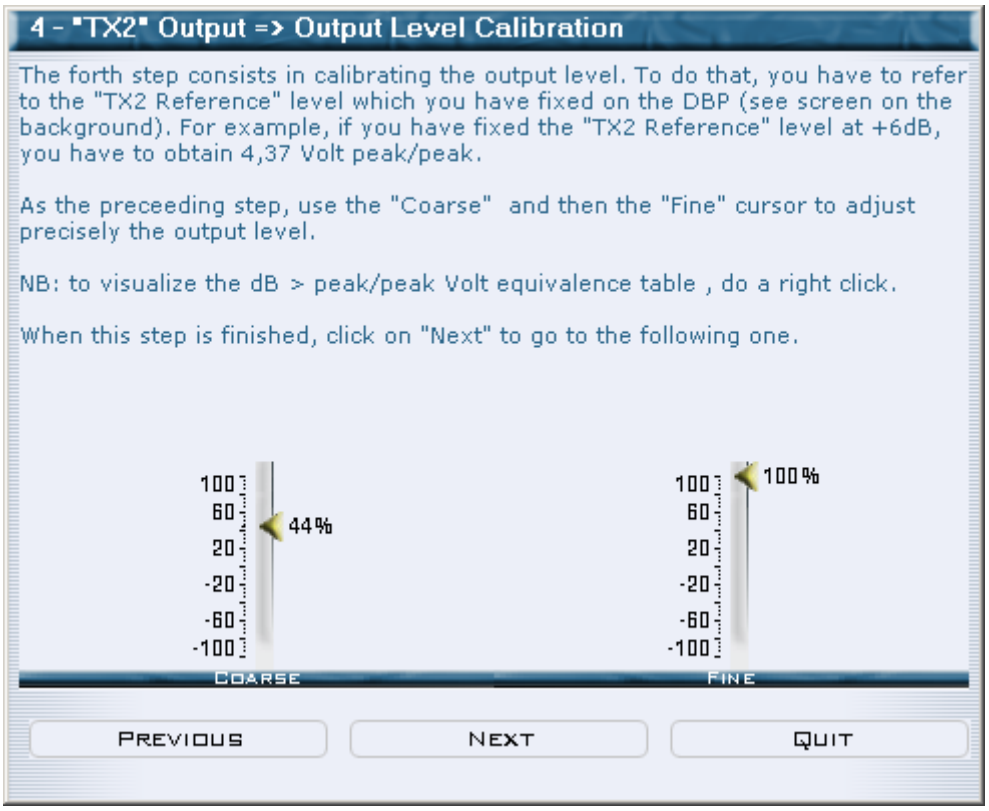


The first stage is to calibrate the main TX, (TX1). To set the DC, you have to first obtain 0V DC. 2 cursors allow you to obtain this measurement, « Coarse », and « Fine », to get the precise value.
Then click « next ».


2 - "TX1" Output => Output Level Calibration
The second step consists in calibrating the output level. To do that, you have to refer to the "TX1 Reference" level which you have fixed on the DBP (see screen on the background). For example, if you have fixed the "TX1 Reference" at +6dB, you have to obtain 4,37 peak/peak Volt.
As the preceeding step, use the "Coarse" and then the "Fine" cursor to adjust precisely the output level.
NB: to visualize the dB > peak/peak Volt equivalence table, do a right click.
When this step is finished, click on "Next" to go to the following one.
100
60
20
-20
-60
-100
44%
COARSE
100
60
20
-20
-60
-100
100%
FINE
PREVIOUS
NEXT
QUIT

The next 2 stages are similar but concern the TX2.


3 - "TX2" Output => Continuous Voltage Calibration
The third step consists in getting rid of any continuous voltage. To do that, join up your oscilloscope or voltmeter to theTX2 output by applying maximum resolution.
Two cursors are at your disposal to carry out this calibration:
- Coarse = to adjust roughly,
- Fine = to adjust precisely.
With the "Coarse" and "Fine" help, adjust the level to obtain a continuous voltage of "0,00" volt.
When you have finished this step, click on "Next".
100
60
20
-20
-60
-100
18%
COARSE
100
60
20
-20
-60
-100
-100%
FINE
PREVIOUS
NEXT
QUIT


4 - "TX2" Output => Output Level Calibration
The forth step consists in calibrating the output level. To do that, you have to refer to the "TX2 Reference" level which you have fixed on the DBP (see screen on the background). For example, if you have fixed the "TX2 Reference" level at +6dB, you have to obtain 4,37 Volt peak/peak.
As the preceeding step, use the "Coarse" and then the "Fine" cursor to adjust precisely the output level.
NB: to visualize the dB > peak/peak Volt equivalence table , do a right click.
When this step is finished, click on "Next" to go to the following one.
100
60
20
-20
-60
-100
44%
COARSE
100
60
20
-20
-60
-100
100%
FINE
PREVIOUS
NEXT
QUIT

Once you've adjusted the levels click « quit ». We advise you to save the calibration file on your hard drive or floppy so you can access it immediately.

Warning:

- A calibration file is dedicated to one processor. You will not be able to transfer file to another processor.

- Moreover the measurements may differ from one machine to another.

It is, imperative then to do a full calibration on each unit.

NOTA BENE:

Decibels (dB)	Volts Peak to Peak (Vcc/Vpp)	Volts RMS (Vrms)
-6 dB	1.10 Vpp (Vcc)	0.388 Vrms
-4 dB	1.38 Vpp (Vcc)	0.489 Vrms
-2 dB	1.74 Vpp (Vcc)	0.615 Vrms
0 dB	1.95 Vpp (Vcc)	0.774 Vrms
+2 dB	2.76 Vpp (Vcc)	0.975 Vrms
+4 dB	3.47 Vpp (Vcc)	1.227 Vrms
+6 dB	4.37 Vpp (Vcc)	1.545 Vrms
+8 dB	5.50 Vpp (Vcc)	1.945 Vrms
+10 dB	6.93 Vpp (Vcc)	2.448 Vrms
+12 dB	8.72 Vpp (Vcc)	3.082 Vrms

IV – THE PLUG-INS

IDT processors have an open and modular architecture which is open to receive plug-ins. These plug-ins are available from IDT Sound Processing Corporation and can be activated by a simple software upgrade.

There are 4 plug-ins available today. The IDT team regularly develops new plug-ins for your processors and we invite you to visit our web-site regularly or to subscribe to our « newsletter » to be among the first to be aware of new functions for your processors.

If you have not ordered a plug-in with your processor, or you want to test one that you don't have all you have to is contact IDT Sound Processing Corporation for an evaluation which is limited to 30 days..

WARNING: the plug-in from IDT can only be tested **once and only once** and the 30 day trial period starts from the day it is loaded into the unit. Please make sure, then, to be ready for the test!

To install the plug-ins in your processor nothing could be more simple:
In the « Help » menu, click « Load Plugin » and select the file of the plug-in that IDT has supplied.

Here are the plug-ins available from IDT and their features:

IV-1 -THE STEREO BOOST

The "Stereo Boost" Plug-In is displayed in the central screen.

The "**Stereo Boost"** Plug-In allows you to optimize the width of your stereo image without adding an external hardware enhancer.

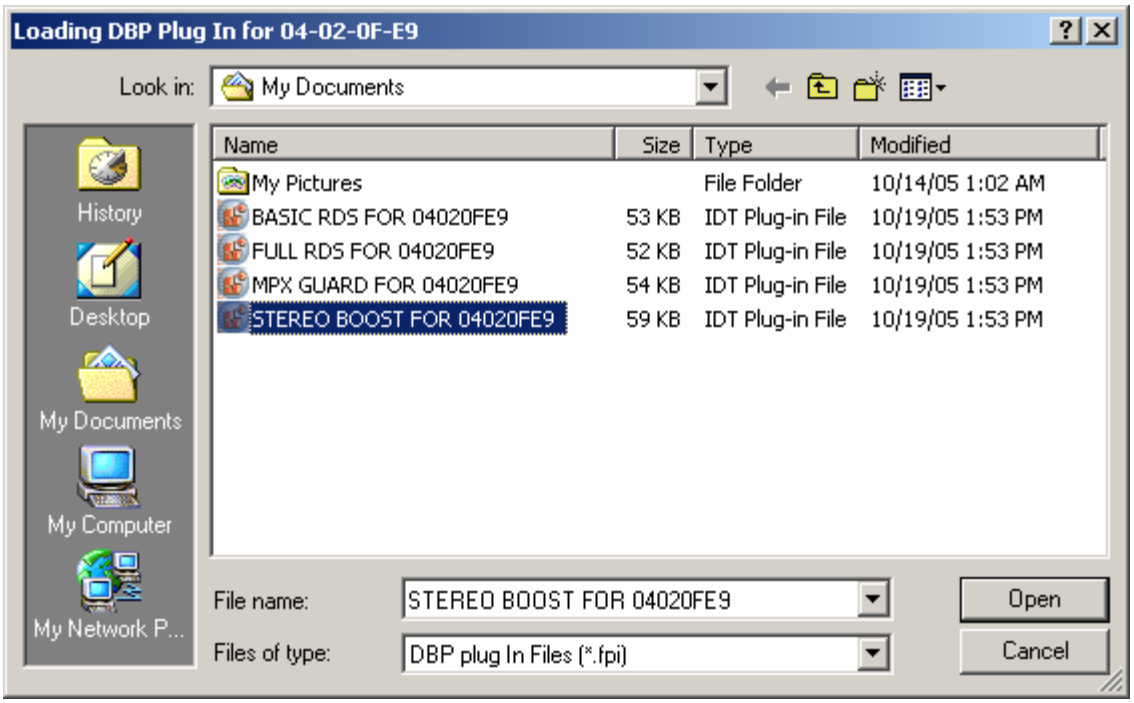
Installation:

WARNING :

The **Plug-In** which has been sent to you corresponds exactly with the **serial number** of your processor as well as the **software layers** that it uses. As a result it will only work with the machine that you specified with your order.

To install the "Stereo Boost" Plug-In:

1. Follow the instructions that are given to you along with the despatch of this **Plug-In** to install on your PC.
2. Launch the **Master Gate** software as usual.
3. Click "**Load Plug In**" in the **Help** menu.
4. The following window will be displayed :
5. Select the **Plug-In** that you want to load (In the example below: "STEREO BOOST")
6. Click "**Open**" at the bottom of the window.



Loading window for "Plug-Ins".

To switch the "Stereo Boost" ON/OFF:

1. Click the mode **A** or **B** above the **Stereo Boost** inscription in the top right hand corner of the screen:
2. The button is placed where you want it and shows it has been activated.
3. Do the same by clicking "**OFF**" to deactivate the enhancer.

- The **A** mode amplifies the difference in level between the left and right channels.
- The **B** mode inserts a delay between the left and right channels

Enhance:

This function defines the delay time between the 2 channels.

NB :

When you use the **Stereo Boost** in **A** mode, you no longer have access to the Enhance command as this mode does not insert any delay.

To adjust the enhancement:

1. Place your mouse on the yellow triangle located to the right of the "**Enhance**" scale.
2. Stay clicked on your mouse and move the cursor up or down to get the desired value which will be displayed to the right of the cursor, (in the above example: 11 %)
3. By double clicking the value , you can enter a value from your digital keyboard.

Diffusion:

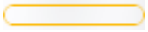
This function allows you to set the amplitude of the effect.

To adjust the diffusion:

1. Place your mouse on the yellow triangle located to the right of the "**Diffusion**" scale.
2. Stay clicked on your mouse and move the cursor up or down to get the desired value which will be displayed to the right of the cursor, (in the above example: 22 %)
3. By double clicking the value , you can enter a value from your digital keyboard.

Stereo Limiter:

To switch ON / OFF the enhancer:

1. Click "**ON**" above the Stereo Limiter inscription in the top right hand corner of the screen:
2. The button  is placed where you want it and shows it has been activated.
3. Do the same for "**OFF**" to deactivate the limiter.

Efficiency:

To adjust the efficiency of the breadth of the stereo image:

1. Place your mouse on the yellow triangle located to the right of the "**Efficiency**" scale.
2. Stay clicked on your mouse and move the cursor up or down to get the desired value which will be displayed to the right of the cursor, (in the above example: 11 %)
3. By double clicking the value , you can enter a value from your digital keyboard.

Stereo Enhance Effect:

This scale displays, in real time, the percentage of the enhance effect on the stereo image, thus he efficiency of the enhancer.

Stereo Limitation Effect:

This scale displays, in real time, the percentage of the limiting effect on the stereo image, thus he efficiency of the limiter.

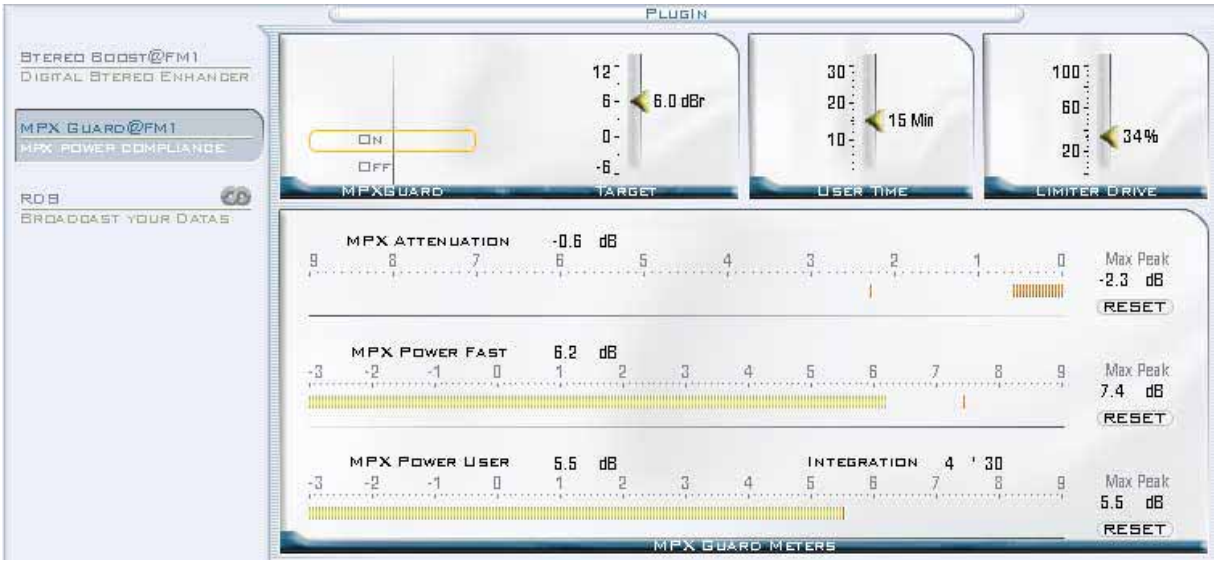
Final Stereo Image:

This scale displays, in real time the real breadth of the stereo image at the output of the processor.

IMPORTANT :

In FM the stereo signal is transmitted by a carrier which takes care of the L+R information and a sub-carrier modulated by the difference L-R. This means of transmission, called Multiplex is, as a rule, robust. However when there are **multi-path** problems of the high frequency signal (generally due to an indented geographical situation) receivers (e.g. car radios) can find it difficult to get a clear signal. If you give to much breadth to the "**Stereo Boost**" **Plug-In** you can increase significantly these multi-path problems.

IV-2 - THE MPX GUARD



The "MPX Guard" Plug-In is displayed in the central screen.

Your **processor** has modular software architecture. This allows us to add components called "**Plug-Ins**", depending on your specific needs... Our **MPX Guard** allows you to, not only set the level of MPX power desired, but to follow constantly effect on the MPX, displayed in an icon in the main screen. The control of the MPX power respects absolutely the ITU-R 412-7 standard.

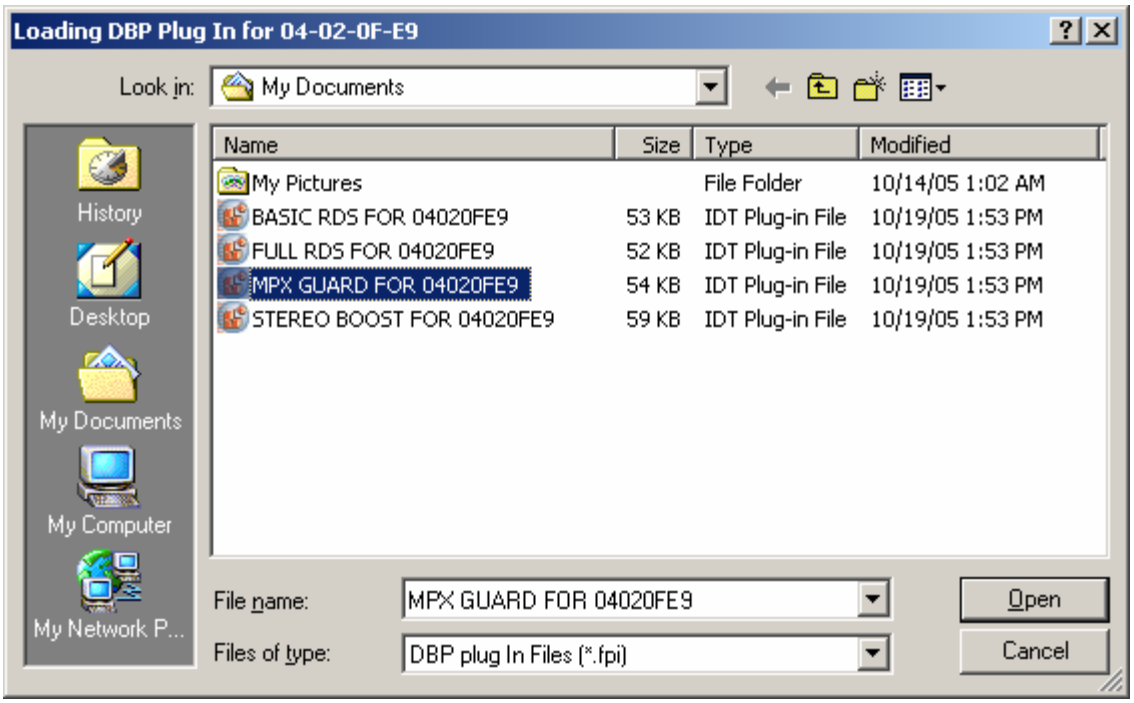
Installation:

WARNING :

The **Plug-In** which has been sent to you corresponds exactly with the **serial number** of your processor as well as the software layers that it uses. As a result it will only work with the machine that you specified with your order.

To install the "MPX Guard" Plug-In:

1. Follow the instructions that are given to you along with the despatch of this **Plug-In** to install on your PC.
2. Launch the **Master Gate** software as usual.
3. Click "**Load Plug In**" in the **Help menu.**
4. **The following window will be displayed :**
5. Select the Plug-In that you want to load (In the example below: "MPX GUARD")
6. Click "**Open**" at the bottom of the window.



Loading screen for "Plug-Ins".

The Settings of the MPX Guard:

To put the MPX Guard ON:

1. Click "**ON**" above the order "**MPX Guard**".
2. The selector places itself on "**ON**", which shows that the command has been recorded.
3. Click "**OFF**" to deactivate the MPX Guard.

To set the desired MPX Power:

1. Set the arrow of your mouse on the yellow triangle located to the right of the "**Target**" scale.
2. Stays clicked on your mouse and move the cursor up or down to get the desired value. This value will be displayed to the right of the cursor. (In the example above: 6 dBr)
3. Simple click on the value 6.0 dBr, it will be selected and you can set the value desired from your digital keyboard.

To adjust the integration time of the deviation measurement:

1. Set the arrow of your mouse on the yellow triangle located to the right of the "**User Time**" scale
2. Stays clicked on your mouse and move the cursor up or down to get the desired value. This value will be displayed to the right of the cursor. (In the example above: 15 mn)
3. Double click on the value

, it will be selected and you can set the value desired from your digital keyboard.

The Displays of the MPX Guard:

The **MPX Guard** Plug-In has 3 horizontal display scales which allow you to control with precision all the parameters.

MPX Attenuation:

This scale graded from **right to left**, indicates the **instantaneous rate of attenuation** applied to the power by the **MPX Guard**. The value is displayed digitally above and the red liner moves in real time from right to left to show you the applied rate.

The **maximum point attained** by the line stays displayed by a red vertical bar. You can, thus, leave the **MPX Guard** "in surveillance" mode and know the maximum level of attenuation applied while you are away.

To **reset to** the red bar indicating the maximum value attained to zero click "**Reset**" located to the right of the "**MPX Attenuation**" scale.

MPX Power Fast:

This scale indicates the power at the output of the **Processor** instantaneously. The value is displayed digitally above and the yellow line moves in real time to indicate the current value.

The **maximum point attained** by the line remains on display by a red vertical bar. As a result you can let the "**MPX Guard**" watch over the signal and find the maximum value obtained while you were away.

To **reset to zero** the red bar shows the maximum value attained then click on "**Reset**" located to the right of the "**MPX Power Fast**" scale.

MPX Power User:

This scale shows the power averaged by the integration time fixed by the "**Integration**" command. The value is displayed digitally above and the yellow line also shows you the current value.

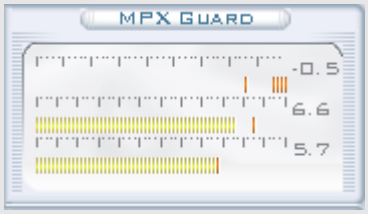
The **maximum point attained** by the line stays on display as a vertical bar. As a result you can let the "**MPX Guard**" watch over the signal and find the maximum value obtained while you were away.

To **reset to** the red bar indicating the maximum value attained to zero click "**Reset**" located to the right of the "**MPX User**" scale.

Tags :

If the resolution of your screen allows you a 1024 x 768 display the tags can stay on the screen. These tags give a certain amount of important information and give you rapid access to a great deal of features of your processor. See also: **MPX Guard Tag**.

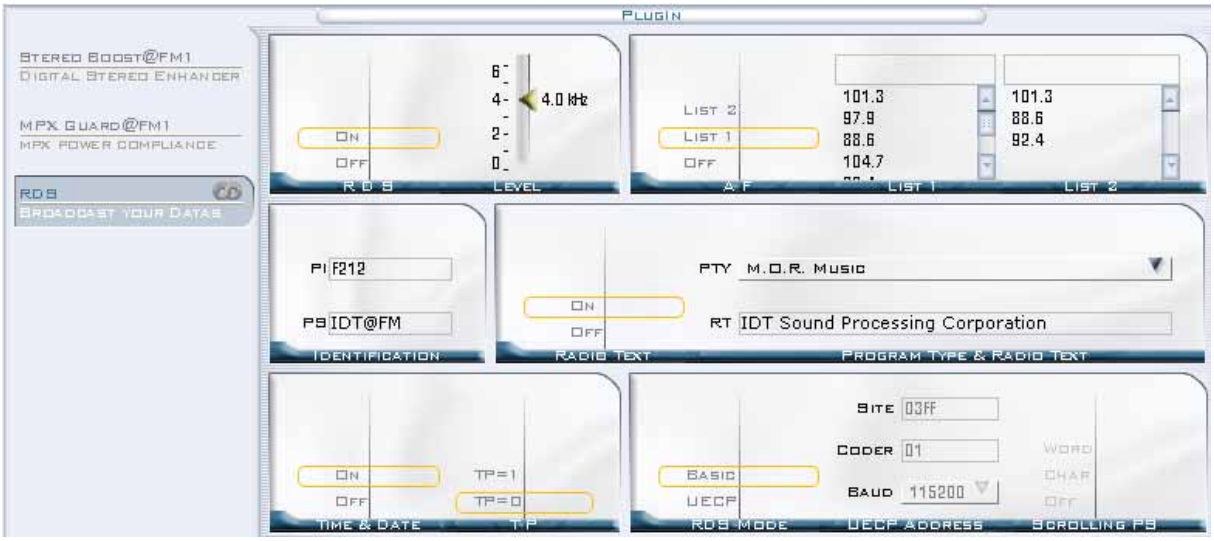
The "**MPX Guard Tag**" allow you to conserve the most important information of the **MPX Guard** Plug-In in the general display of **Master Gate**. The 3 scales described above are part of the tags.



"MPX Guard" tag

IV-3 – THE RDS PLUG-INS

The BASIC RDS Plug-In:



The "Basic RDS" is displayed in the central screen.

Your processor has a modular software architecture which allows you to add components called "**Plug-Ins**", depending on your specific needs. The "**Basic RDS**" Plug-In allow you to generate the main RDS information without having to turn to an external encoder.

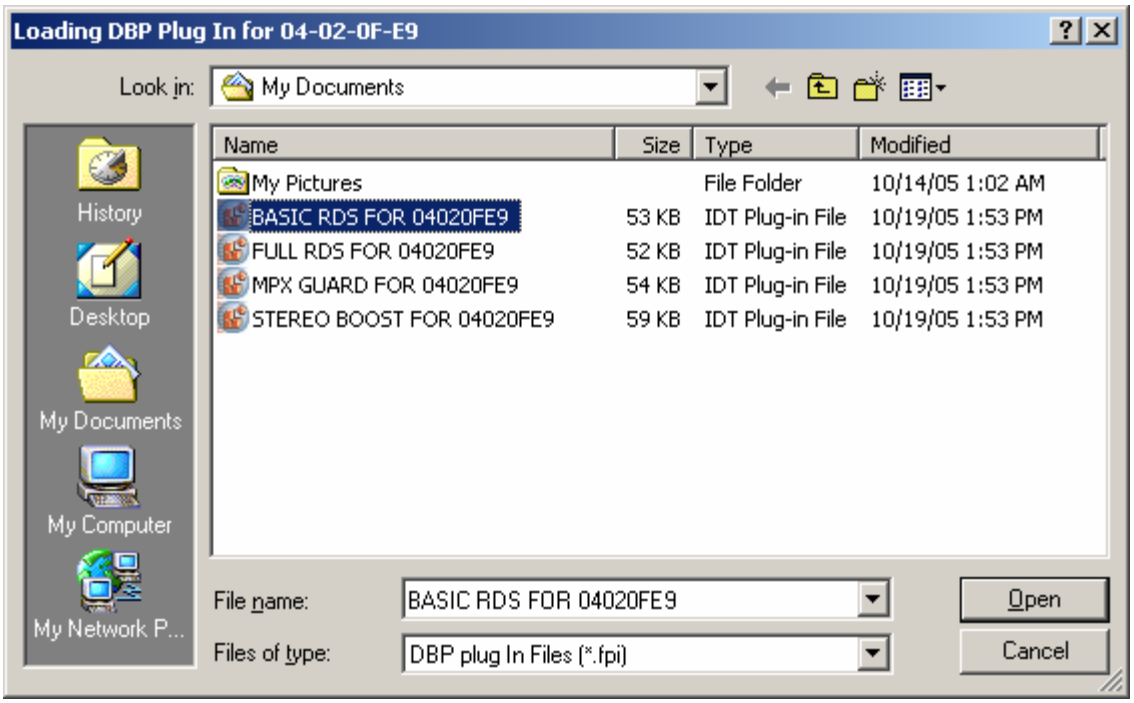
Installation:

WARNING :

- The **Plug-In** which has been sent to you corresponds exactly with the serial number of your processor as well as the **software layers** that it uses. As a result it will only work with the machine that you specified with your order.

To install the "Basic RDS" Plug-In:

1. Follow the instructions that are given to you along with the despatch of this **Plug-In** to install on your PC.
2. Launch the **Master Gate** software as usual.
3. Click on **"Load Plug In"** in the **Help** menu.
4. Click "**Load Plug In**" in the **Help** menu.
5. Select the **Plug-In** that you want to load (In the example below: "BASIC RDS")
6. Click "**Open**" at the bottom of the window.



The loading window "Plug-Ins".

To switch the RDS code ON or OFF:

1. Click "**ON**" above the RDS inscription at the top left hand side of the window :
2. The button is placed where you want it and shows it has been activated.
3. Do the same by clicking "**OFF**" to deactivate the coder.

To enter the PI code:

1. Click the "**PI**" field.
2. If necessary use "Del" and/or "Ret." to delete the existing number.
3. Enter the 4 character PS code which has been allocated to you.

To enter the PS code:

1. Click the "**PS**" field.
2. If necessary use "Del" and/or "Ret." to delete the existing number.
3. Enter the 8 character PS code which has been allocated to you.

To transmit the date and time into the RDS code:

NB: It is the date and time of the processor's internal clock that are transmitted .See also: **Link clock to PC**.

1. Click "**ON**" above the **Time & Date** inscription:
2. The button is placed where you want it and shows it has been activated.
3. Do the same by clicking "**OFF**" to deactivate the transmission.

To choose the programme type:

1. Click the scrolling menu "**PTY**".
2. Choose the type that best suits the programme of your station.
3. The scrolling menu will disappear.

To send Radio Text:

1. Click "**ON**" above the Radio Text inscription:
2. The button is placed where you want it and shows it has been activated.
3. Do the same by clicking "**OFF**" to deactivate the transmission.

To enter or modify the Radio Text sent:

1. Click the "**RT**" field.
2. If necessary use "Del" and/or "Ret." to delete the existing number.
3. Enter the text you wish to send.

To activate the TP function:

1. Click "**ON**" above the **TP** inscription:
2. The button is placed where you want it and shows it has been activated.
3. Do the same by clicking "**OFF**" to deactivate the function.

New features:

The new version of the **RDS @ FM1** coder allows a management of the **AF** list, used notably in the case of a grouping of broadcasting stations not diffusing the same program. You thus have the possibility during local or advertising unhooking to modify this list by means of Local Switche.

The list AF 1 being the main list and the list AF 2, the one that you will use during your unhooking. This new function will allow you to assure a quality of reception with your mobile auditors.

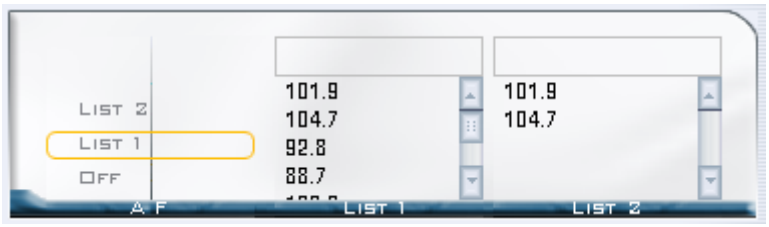
Majorities:

In general rules, the first frequency of the AF list is the main frequency of the broadcasting station, that or is installed the RDS coder.

In the case of a switching of list, it is desirable that this frequency is also at the head of list if you delete the rest of the list.

To add Alternate Frequencies :

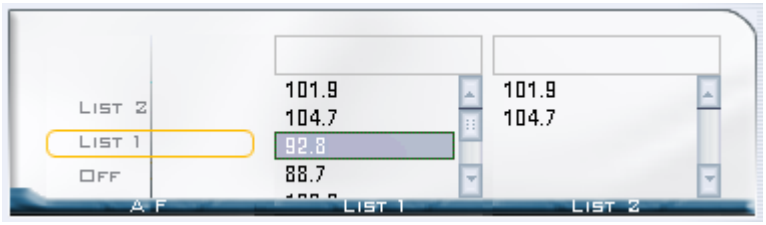
1. Click the square field of the LIST 1.
2. Enter the frequency to add and click Enter on your keyboard :



"Alternate Frequencies" Menu.

To delete an alternate frequency:

1. Click the frequency to delete; this will be displayed in « bright ».
2. Press the « **DEL** » key of your keyboard.



«Alternate Frequencies" menu.

To modify the order of a frequency in the ‘’List 1’’:

1. Click the frequency you want to move by keeping your finger down on the mouse.
2. Slide the selected frequency to where you want to place it.

Alternate frequencies of the ‘’List 2’’:

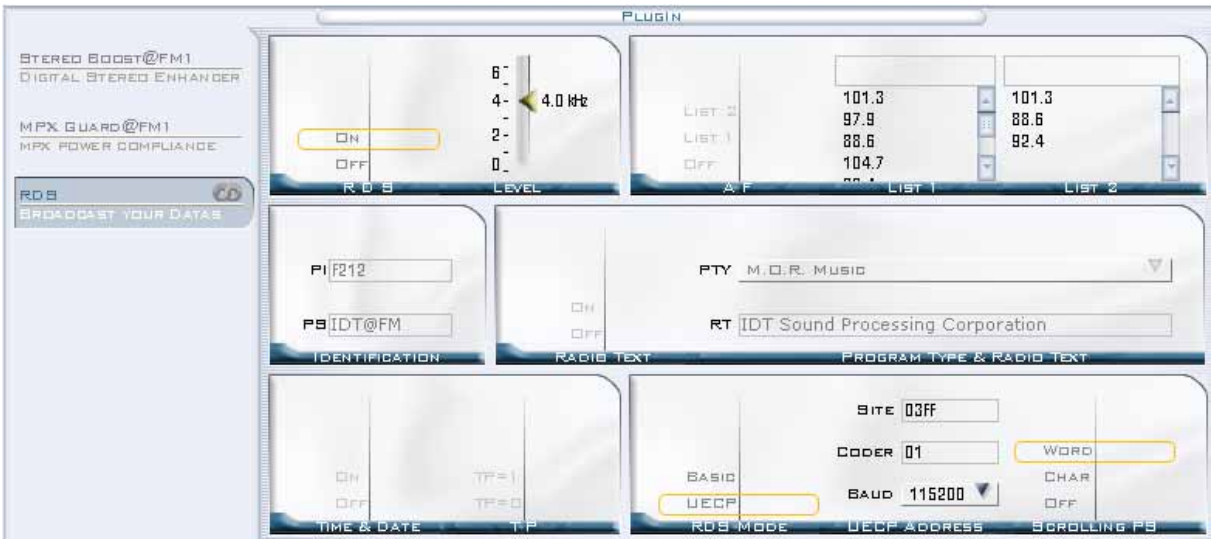
As a general rule the list "List 2" resumes partially the AF list "List 1". You have the possibility to duplicate the list "List 1".

1. Click on the first frequency of the list "List 1" and make the command "Ctrl A" on your keyboard, to select the entire list.
2. Make slide the selection towards "List 2".
3. Delete then the frequencies not wished of the "List 2".

Switching of lists:

1. By the software, click on "List 1" or "List 2".
2. By means of the Local Switche.

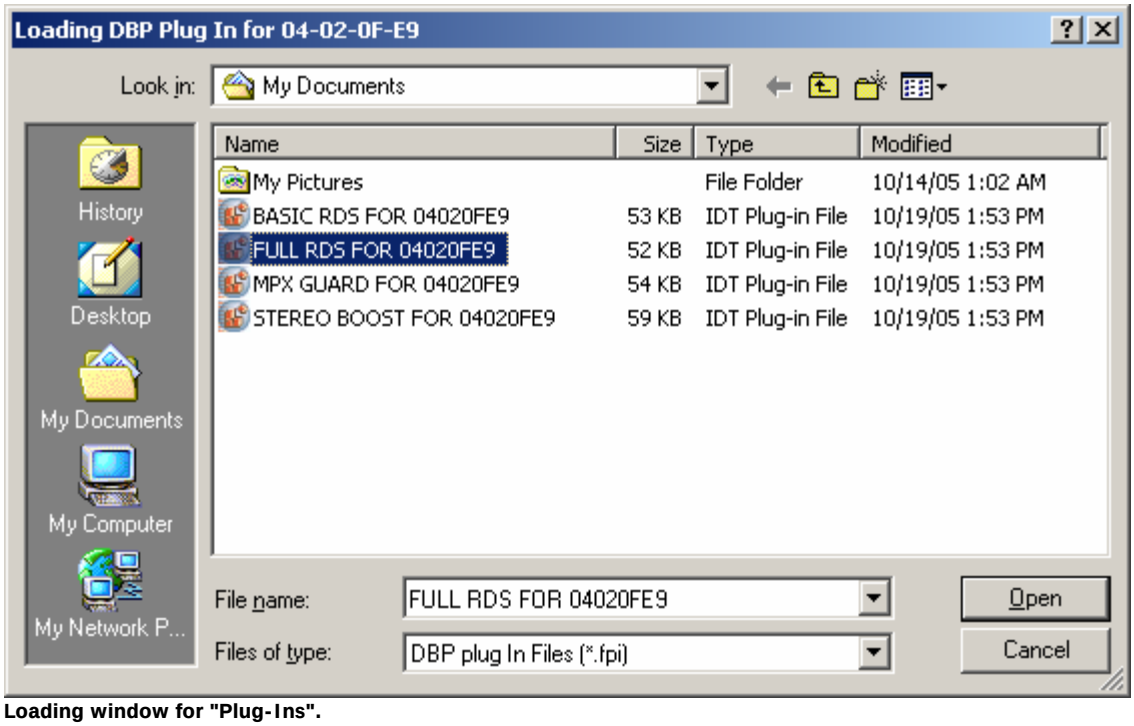
The Dynamic RDS Plug-In:



The "Dynamic RDS" plug-in is displayed in the central screen.

To install the "Dynamic RDS" Plug-In:

1. Follow the instructions that are given to you along with the despatch of this **Plug-In** to install on your **PC**.
2. Launch the **Master Gate** software as usual.
3. Click "**Load Plug In**" in the **Help** menu.
4. The following window will be displayed :
5. Select the **Plug-In** that you want to load (In the example below: "FULL RDS")
6. Click "**Open**" at the bottom of the window.



Loading window for "Plug-Ins".

To switch the RDS code ON or OFF:

1. Click "**ON**" above the RDS inscription at the top left hand side of the window :
2. The button is placed where you want it and shows it has been activated.
3. Do the same by clicking "OFF" to deactivate the coder.

To switch the UECP coder ON:

1. Click "UECP" below RDS Mode inscription at the bottom left of the window
2. The button is placed where you want it and shows it has been activated.

UECP Address:

In dynamic mode it is necessary to give an address to the coder. Here, you will define:

- the address of the site (hexadecimal number from 0 to 3FF),

- the address of the coder (hexadecimal number from 0 to 3FF),

- the speed of transmission from 2400 to 115200 bauds...

Scrolling PS:

WARNING: this function is not allowed in a number of countries.

The «Dynamic RDS «allows the RDS to scroll so the information that is normally sent by Radio Text (RT) will be sent in PS.

The scrolling PS allows 2 ways of working;

The "Char" mode:

- scrolling is character by character,

The "Word" mode:

- scrolling is done word by word automatically for words over 8 characters long. To use this mode text must be preformatted with at least 8 characters.

Text information to be sent in Scrolling PS is delivered to the processor via the data port with the UECP (SPB490) protocol.

NB: radio text transmission is automatically deactivated when a scrolling text mode is activated.

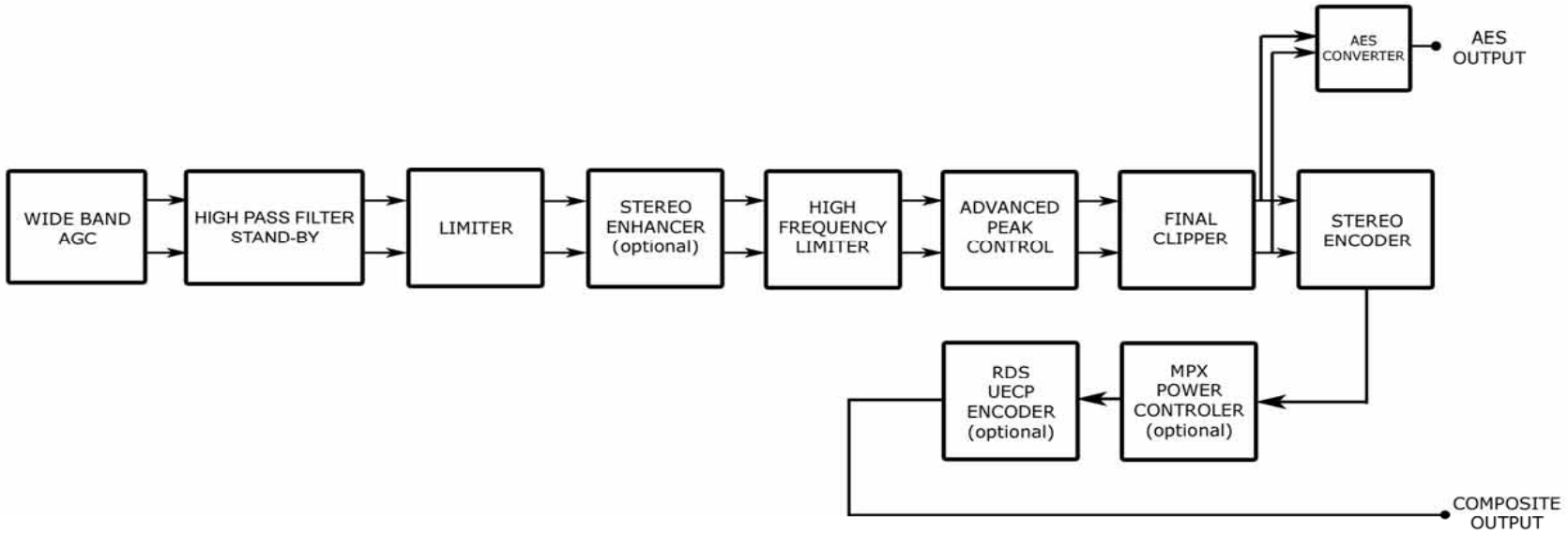
Transmission of UECP data:

1. The data is delivered to the coder via the "Data" DB9 connector located on the back panel of the processor.

List of functions:

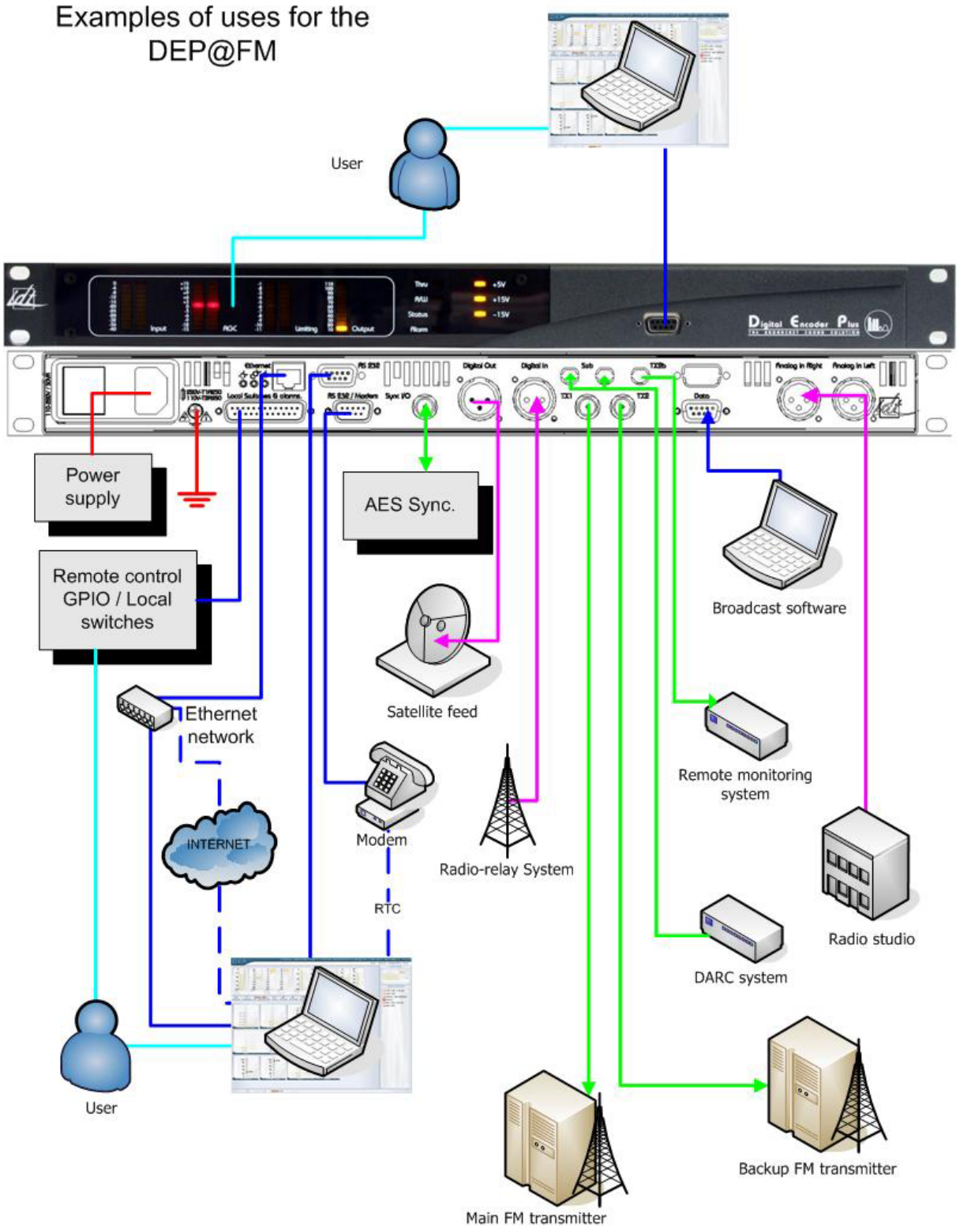
- **PI**
- **PS**
- **DI**
- **TA/TP**
- **MS**
- **PTY**
- **RT**
- **AF**
- **EON-AF**
- **Link**
- **Real Time Clock**
- **CT On/Off**
- **RDS On/Off**
- **Site Address**
- **Encoder Address**
- **Make PSN list**
- **PSN enable/disable**
- **Communication port configuration speed**
- **Scrolling PS**

All these functions are compatible with the EN 50067 (1998), NRSC US RDBS (1998) and SPB 490 version 5.1 (1997) standards. So, simplify your life and stop stacking racks of equipment by loading this plug-in directly into your IDT processor.



IDT SOUND PROCESSING CORPORATION
DIGITAL ENCODER PLUS

SIMPLIFIED BLOC DIAGRAM


Examples of uses for the DEP@FM
User
Power supply
AES Sync.
Remote control GPIO / Local switches
Broadcast software
Satellite feed
Ethernet network
Remote monitoring system
INTERNET
Modem
Radio-relay System
Radio studio
RTC
DARC system
User
Main FM transmitter
Backup FM transmitter

General specifications:
Frequency response: +0 / - 0.4dB, 10-20000Hz (Bypass mode).
System distortion: < 0.01% THD, de-emphasised
Signal to Noise: 92 dB unweighted, 20 Hz - 20 kHz
I/O Delay: ~3 milliseconds
Internal sample rate: 96 kHz
Internal resolution: 40 bit floating point
I/O resolution: 24 bit
Maximum Overshoot: 0.1 dB
Phase Response: Linear 20 Hz - 20 kHz
Process Architecture: Wide band AGC / Final limiter APC® overdrived DSP: 4 Sharc 21065, Maximum number of Factory Presets: 10
Maximum number of User Presets: 10
Remote contact closure: 8 inputs and 12 outputs

Analogue Audio Input:
Configuration: Stereo
Impedance: > 6 kOhms
Type: Electronically balanced
Maximum Input Level: +25 dBu, for THD + N < 0.01%
Equivalent Input Noise: < - 84 dBu
Common Mode Rejection Ratio: 90 dB
Connector: Two XLR female
AD Conversion: 24 bit 128X oversampled

Digital Audio Input:
Configuration: Stereo per AES/EBU (AES3), 16, 18, 20 or 24 bit resolution.
Impedance: 110 ohms
Sampling Rate: 32, 44.1, 48, 96 kHz autodetect
Status bits: Input channel status is decoded for control. Input User bits are optionally passed through the output
Connector: XLR female, EMI-suppressed
Filtering: RFI filtered. Effective 0.5-1000MHz

Digital Audio Output:
Configuration: Stereo per AES/EBU (AES3), 20 or 24 bits resolution.
Impedance: 110 ohms
Sampling Rate: Software selectable, free running at 32 kHz +/- 10 PPM, 44.1 kHz +/- 10 PPM, 48 kHz +/- 10 PPM, 96 kHz +/- 10 PPM.
Synchronisation mode: Internal free running or external or delivery mode for 32, 44.1, 48, 96 kHz
Word Length: Selectable 18, 20, 24 bits.
Jitter: Less than 5 ns rms.
Status bits: Output channel status can be generated. Input User bits are optionally passed through the output
Connector: XLR female, EMI-suppressed
Filtering: RFI filtered. Effective 0.5-1000MHz

Digital Sync Input / Output:
Configuration: Two mode, input to provide sync, Output to deliver sync
Impedance: 75 ohms
Sampling Rate for Input mode : 32, 44.1, 48, 96khz
Sampling Rate for Output mode : Software selectable , 32kHz +/- 10 PPM, 44.1kHz +/- 10 PPM, 48kHz +/- 10 PPM, 96kHz +/- 10 PPM.
Connector: BNC female,

Digital Stereo Generator:
Frequency Response: +/- 0.1 dB 20Hz - 15 kHz
Configuration: Two independently controlled output
TX1: Multiplex signal
TX2: Programmable (multiplex or 19 kHz)
Source impedance: 75 ohms
Load Impedance: 75 ohms or greater
Level: Adjustable max 15 Vpp (100% modulation ~ -3 dBFS) Connector: BNC
Pre-emphasis: 50 or 75µs
Stereo separation: More than 90dB, 20Hz - 15 kHz Main to Sub crosstalk, Sub to Main crosstalk : < -85 dB
Audio Filtering: 80 dB rejection at 19 kHz
Pilot stability: +/- 0,2 Hz

RDS / RDBS: (optional)
Basic RDS/RDBS: PI, PS, AF, PTY, RT, RTC
Dynamic RDS/RDBS: via port data UECP (Universal Encoder
Communication Protocol)
Data port: RS232 manual selection baud rate 9600 to 115200

Remote computer interface:
Configuration : Two RS 232
Connector : One Sub-D 9 pin female and one Sub-D 9 pin male on the back side and one Sub-D 9 pin female on the front panel
Baud rate : Auto selectable baud rate 9600 to 115200 bauds

Remote control
Configuration: Fully remote controllable by external modem or with the TCP/IP (optional)
Rate: 9600 to 115200 baud

Local Switch GPI/O:
Configuration: 8 inputs and 12 outputs software controllable

Power:
Voltage: 80 to 265 VAC, 50 - 60 Hz, 130 VA
Connector: IEC, EMI-suppressed
Safety Standard: CE / DBT

Environmental and Dimensions:
Operating Temperature: 0° to 50° C or 32° to 122° F
Humidity: 0 to 95% RH, non condensing
Size: 19", One rack unit high.
Weight: 6 Kg - 13.2 lb.

IDT Sound Processing Corporation reserves the right to make changes without previous notification. Illustrations, descriptions and characteristics are not contractually binding and not engage the responsibility of the manufacturer.

IDT – SOUND PROCESSING CORPORATION – TECHNOPARC – 5 Allée Moulin Berger – 69130 ECULLY – France
Tel +33/(0) 472.18.19.20 - Fax +33/(0) 472.18.19.21 - Web www.idt-fr.com – e-mail : mail@idt-fr.com